DOCUMENT RESUME

ED 169 283 CE 020 402

TITLE A Program Review of Secondary Vocational Education in Ohio: Job Placement & State Funding. Staff Research Report No. 126.

INSTITUTION Ohio State Legislative Service Commission, Columbus.

PUB DATE Apr 78

NOTE 73p.; Some pages may not reproduce clearly due to colored background

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS Administrator Attitudes; Area Vocational Schools; Educational Finance; Employer Attitudes; Graduate Surveys; *Job Placement; Job Training; *Program Costs; Program Effectiveness; *Program Evaluation; *School Funds; School Support; *Secondary Education; State Surveys; Student Opinion; Teacher Attitudes; *Vocational Education

IDENTIFIERS Ohio

ABSTRACT

This report, prepared by the Ohio Legislative Commission's staff for the Joint Education Committee on Program Evaluation, focuses on secondary vocational graduate placement and state funding. The content is presented in three parts. First, the Committee's findings and recommendations regarding the following areas are presented: placement results, graduates' job skills, placement administration, vocational guidance and screening, and the state funding formula and program costs. Next follows a staff summary. Third, the staff's six-chapter report of their study on secondary job training, graduate placement, and state funding is presented. Chapter 1 provides some background about vocational education, its history, and the program structure. The next four chapters pertain to placement. Chapter 2 looks at placement efforts in ten representative joint vocational/comprehensive districts in Ohio and how teachers, administrators, students, and employers evaluate them. In the third chapter, overall placement results are examined in relation to placement efforts as well as results for particular programs. Chapter 5 presents survey findings on how graduates and employers regard the graduates' preparedness and training. The last chapter, on the funding of vocational education, first discusses the costs and funding sources of vocational programs. It then presents the results of a survey of vocational education superintendents concerning funding needs and approaches to state support of vocational programs. (EM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED169283

Ohio Legislative Service Commission
David A. Johnston, Director
Columbus, Ohio
April, 1978

A PROGRAM REVIEW OF SECONDARY VOCATIONAL EDUCATION IN OHIO: JOB PLACEMENT & STATE FUNDING

Staff Research Report No. 126

RESEARCH STAFF

Ricca Slone, Project Officer
Vicki Belfiglio, Legislative Intern
Carol Bessey, Research Associate
Marian Bontempo, Legislative Intern
David Brunson, Chief Economic Analyst LBO
Marcia Cooper, Research Associate
David Diroll, Research Attorney
Susan Klar, Senior Research Associate
Charles Phillips, Consultant

CE 020 402

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

OHIO LEGISLATIVE SERVICE COMMISSION
STATE HOUSE
COLUMBUS, OHIO

SENATE MEMBERS	HOUSE MEMBERS
Oliver Ocasek *Chairman*	Charles F. Kurfess *Vice-Chairman*
Charles L. Butts	A. G. Lancione
Theodore M. Gray	William L. Mallory
M. Morris Jackson	C. J. McLin, Jr.
Michael J. Maloney	Norman A. Murdock
Harry Meshel	Barney Quilter
Marigene Valiquette	Vernal G. Riffe, Jr.

JOINT EDUCATION COMMITTEE
ON PROGRAM EVALUATION

Senator Marcus A. Roberto, Chairman

SENATE MEMBERS

Anthony J. Celebrezze, Jr.
Sam Speck

HOUSE MEMBERS

James E. Betts
Robert J. Boggs
Waldo Bennett Rose
Thomas C. Sawyer

Because the Legislative Service Commission cannot fulfill requests for multiple copies of its staff research publications, persons or groups that need more than one copy of this report are encouraged to reproduce all or any portion of its contents. The Commission claims no copyright or other basis requiring consent to republication of any portion of this publication, but it is requested that the Director be informed of any republication involving a public distribution and that the source be identified therein.

This is a staff report of the Legislative Service Commission. Although the Legislative Service Commission has authorized the publication of this report, the report does not represent the findings and opinions of the Commission.

April 19, 1978

To the Members of the Legislative Service Commission

From the Joint Education Committee on Program Evaluation

The committee members have read the staff report on vocational education placement and funding, and approve it for publication along with the committee's recommendations.

MARCUS A. ROBERTO, CHAIRMAN

JAMES E. BETTS

ANTHONY J. CELEBREZZE, JR.

ROBERT J. BOGGS

SAM SPECK

WALDO BENNETT ROSE

THOMAS C. SAWYER

TABLE OF CONTENTS

	Page
Committee Findings and Recommendations	
Staff Summary	
Introduction	1
Research Design	1
Report Outline	2
Chapter One: Background	3
History and Statutes	3
Secondary Vocational Training: Its Context and How It Works	6
Funding Job Training Programs in Ohio	9
Chapter Two: Placement Administration	11
Placement Administration in the Sample Districts	11
How the Main Participants Evaluate Placement Administration	14
Employer Suggestions to Schools	16
Chapter Three: Overall Placement Results	19
Sample District Employment Data	19
General vs. Vocational Unemployment Data	20
Vocational Graduate Employment: Ohio vs. Other States	21
Other Factors Affecting Overall Placement Results	27
Chapter Four: Placement Results in Specific Programs	28
Vocational Graduates & Placement Results by Taxonomy	28
Graduate Program Choice and Placement Results by Program	29
Reasons for Poor Placement Results in Problem Programs	31
Factors Determining Program Offerings	32
Placement as a Measure of Success	37
Chapter Five: Graduate Preparedness and Employer and Graduate Satisfaction	38
Graduate Preparedness	38
Employer Satisfaction	44
Graduate Satisfaction	46
Chapter Six: Vocational Funding	48
Funding Distribution and Formulas	48
Superintendent Survey on State Funding	51
Interaction of State Equal Yield and Vocational Unit Subsidies	58
Conclusion	60

COMMITTEE FINDINGS AND RECOMMENDATIONS

In 1977, members of the Ohio Legislative Service Commission (LSC) agreed to improve policy analysis in the General Assembly by developing a staff capability for program review and evaluation.

Commission Chairman, Senator Oliver Ocasek, selected a Subcommittee on Legislative Oversight, chaired by Senator Harry Meshel, which recommended education and natural resources as subject areas for joint legislative-staff oversight projects. The Commission also endorsed LSC participation in Project PRESS, in which the staff of the Eagleton Institute of Politics at Rutgers University provided training seminars and ongoing technical assistance for staff and legislators in methods and purposes of program review.

The chairmen of the standing committees on education of both houses recommended members of their committees to serve on the Joint Education Committee for Program Evaluation. The Joint Committee selected secondary vocational education for study and chose to concentrate on two areas: job placement and followup of vocational graduates and state funding of vocational programs. The Committee met regularly to review the research design and monitor staff progress.

Placement Results

The Committee finds that overall placement rates of Ohio vocational graduates compare favorably with the national average, but placement results in certain programs are much lower. To improve placement results, the Committee recommends that:

--The Division of Vocational Education should upgrade placement as an aspect of program accountability in the PRIDE evaluation process.

--The Division should integrate placement results into both its labor needs forecasts and its program approval process.

--The Division should provide school guidance counselors with information about below-average placement results in certain programs, including certification or licensing requirements and competitive training programs, and encourage them to make the information available to students.

--The Division and the Board of Regents should cooperate either to eliminate programs for which secondary vocational training is inadequate or to arrange technical college advance placement for vocational graduates in such programs.

--The General Assembly should establish means to encourage vocational education planning districts to eliminate programs and offer more promising new programs. Without adequate funds for materials and equipment, districts have no financial incentive to change program offerings.

--The General Assembly should authorize and appropriate funds for state incentive grants to schools for (1) outstanding placement results considering local economic variables, and (2) innovative job placement programs and community awareness efforts.

--The General Assembly should authorize the Division to advertise statewide to inform employers about vocational graduates' availability and skills.

Graduates' Job Skills

The Committee finds that vocational graduates are reasonably well-prepared for working; and that the employers surveyed compare vocational graduates favorably to other entry-level employees in most skills, but do not always emphasize the same skills that graduates and administrators do. The Committee recommends that:

--The Department of Education should determine whether the importance of academic skills is sufficiently emphasized to students in all curricula.

--More vocational-related classroom time should be devoted to (1) the importance of maturity, responsibility, and dependability to employers, and (2) preparing graduates for job interviews and applications. The Division should publish guidelines for presenting this information.

--The Division of Vocational Education should publish guidelines encouraging vocational instructors and administrators to emphasize adaptability and avoid overemphasis on specific technical skills.

Placement Administration

The Committee finds that commitment to placing vocational graduates varies widely among vocational education planning districts, that high commitment districts have greater success in placing graduates in their fields of training, and that employers would generally appreciate more contact with the schools about vocational graduates. The Committee recommends that:

--The Division of Vocational Education should encourage each school or district to designate an individual as the central contact for employers and clearinghouse for employment information.

--All districts should reimburse teachers for their expenses in placement efforts from Division funds already set aside for this purpose.

--The General Assembly should require that graduate placement efforts be part of any secondary job training program, and should appropriate funds for part of the salary of a placement coordinator for each vocational education planning district.

Vocational Guidance and Screening

The Committee finds that many vocational students are inadequately prepared to make an appropriate career and educational program choice by the tenth grade, and that career education and vocational guidance should be improved to reduce the need for vocational screening. The Committee recommends that:

--The Department of Education should encourage all Ohio school districts to implement K-10 career education.

--The Department should publish guidelines and provide training to upgrade guidance counselors' capabilities to assist all students in making appropriate career choices.

--The Division of Vocational Education should either prohibit vocational student screening by districts, except to limit enrollments to statutory maximum class sizes in popular programs; or define appropriate purposes of screening and situations in which districts may use it.

--The General Assembly should increase appropriations for early career education and vocational guidance programs.

State Funding Formula and Program Costs

The Committee finds that the classroom unit state subsidy formula for vocational programs is generally sound, but does not provide sufficient flexibility for program cost or class size differences or sufficient funds for equipment replacement. In some districts, full funding of the equal yield formula may create a disincentive to enroll students in vocational programs.

The Committee recommends that:

--The Division of Vocational Education should expand the use of cooperative programs (in which "hands-on" training is provided at a workplace) when appropriate as a partial substitute for greater capital investment in program equipment and vocational facilities. This may be especially prudent given declining school enrollments.

--The Division should encourage schools to lease equipment which will be used for less than five years (as in new and high-technology programs) with appropriate accountability and control.

--The General Assembly should either appropriate funds for replacement equipment on a matching basis with local funds, or raise the statutory override to cover equipment costs.

--The General Assembly should vary the unit override in accordance with program cost categories determined by the Division.

--The General Assembly should provide partial funding for units which fall below the current statutory minimum in the second year of a two-year program.

STAFF SUMMARY

Ohio law requires every school district to make vocational training available as an educational option to high school students. Using federal and state labor needs forecasts, the Ohio Department of Education has determined that 40 to 45 percent of Ohio's work force will need secondary vocational training. Statewide 36 percent (163,000) of all juniors and seniors are currently enrolled in full-time job training programs, taking three hours a day of "hands-on" shop or "lab" courses and over an hour of related classroom instruction, plus state-required English and civics. Programs are offered in agriculture, health, home economics, business and office education, distributive education, trade and industrial education, and special needs. The program offerings in any district must be approved by the state Division of Vocational Education (the Division) based on labor needs forecasts and other criteria before the district can receive state reimbursement. The estimated annual cost of secondary job training in Ohio is $300 million, of which the federal government pays about 7 percent. State and local governments pay the remainder about equally.

Two major administrative structures are used for secondary vocational education. Joint vocational school districts (JVSDs) are separate taxing units usually created to provide vocational training in sparsely populated areas and serving only juniors and seniors. Over 80 percent of Ohio school districts participate in the 49 JVSDs; about one-third of all vocational students leave their home schools to attend a JVS. The remaining two-thirds of the vocational students receive their training in comprehensive districts which provide K-12 education, usually in more densely populated areas.

At the Committee's request, staff focused on funding of secondary job training and job placement of program graduates. Staff visited five JVSDs and five comprehensive districts, and interviewed over 100 teachers and administrators, plus a sample of 551 graduates (class of 1976) and 166 employers about job placement and satisfaction in the ten sample districts. A mail survey of superintendents attempted to identify problems with the state funding formula.

Placement Results

Vocational graduates' success in finding jobs varies among the sample districts and among different vocational programs. Placement in the graduate's field of training seems most strongly related to the district's placement efforts; but overall graduate employment levels in a district are also affected by economic conditions in the labor market area and socioeconomic variables among the students. Statewide, vocational graduate unemployment rates are close to those of all Ohio workers and much lower than youth unemployment rates. Ohio placement results compare favorably to those of most nearby states.

Certain vocational programs do not have good placement records. These include programs similar to those offered by technical colleges or proprietary schools, programs which require special certification and programs which students demand for reasons unrelated to job opportunities. Many factors other than

placement results determine what programs will be offered. No state funds are provided for new equipment and materials or other changeover costs for new programs. The vocational evaluation process (PRIDE) does not emphasize graduate placement efforts or results. Student demand affects program offerings at the local level, but many students are inadequately prepared through career education or guidance counseling to make an appropriate career or program choice. About one-third of the graduates interviewed would not enroll in the same program again, most of them because they had found no job opportunities in the field in which they were trained and were unemployed, doing unrelated work, or enrolled in post-secondary training.

Graduates' Job Skills and Satisfaction

According to employer interviews, vocational education provides students with good technical skills, work habits and attitudes, and social skills. Employers generally express satisfaction with the vocational graduates they hire. Many employers favor cooperative programs in which students attend school part-time and work part-time for vocational credit.

More than 90 per cent of vocational graduates interviewed said they would enroll in vocational education again, and two-thirds said they would enroll in the same program. Graduates working in jobs related to their training are somewhat more likely to say they enjoy their work. Almost 90 per cent of graduates who are working or had worked thought job opportunities were good in the field in which they were trained, whether or not they were working in that field.

Graduates attach less importance to their math and verbal skills than employers do; many employers indicate that all high school students need to improve their basic academic skills. Both students and teachers expressed more concern with technical skills--equipment and how to operate it--than did employers, who often stressed overall employability skills and adaptability plus very basic technical skills. Both employers and graduates thought vocational graduates are reasonably well-prepared for working in general.

Placement Administration

The sample districts which make the greatest placement effort are characterized by administrative dedication to placing students, centralized placement services headed by a placement coordinator, and a high level of teacher participation in placement activities. Placement of many seniors before graduation, or early placement, indicated a high level of placement commitment by school personnel. The sample districts characterized as having strong placement commitment were identified by graduates as offering them the most assistance in finding their first jobs. Graduates and teachers felt that finding jobs for graduates should be a mutual effort.

School personnel cited these aspects of placement administration as most in need of improvement: time for teachers to contact employers, financial support for placement activities, building employer awareness of vocational programs, coordination of placement activities (where there was none), and placing of weaker students. Most school administrators would prefer their own placement coordinator to one of those provided by the Bureau of Employment Services. Many employers expressed an interest in more contact with area vocational school representatives.

Vocational Guidance and Screening

Secondary job training is intended to be part of a career education process beginning in primary school, but school districts do not provide career education. Career education attempts to prepare the student and his vocational counselor to make an informed career training choice for the student in his sophomore year (tenth grade).

Some districts screen students for entry into job training programs, although according to the Division secondary vocational training should be available as an option to any student who will not pursue his or her education at the post-secondary level.

State Funding Formula

State funds for secondary job training are distributed on a classroom unit basis and consist of the teacher's salary (at the state statutory minimum) plus 15 percent for fringe benefits plus $4,000 for materials, supplies and equipment. Superintendents are most dissatisfied with the amount of the $4,000 override because it does not account for inflation or differences in program costs; but they identified inadequate local funding as a greater problem than state funds for vocational programs, especially in comprehensive districts.

A unit must have no more than 25 students and no fewer than 15 juniors or 12 seniors. If the unit falls below the minimums, no state reimbursement is provided and the local district must assume the full cost. Within the allowable limits, the formula amount does not vary by class size.

In comprehensive districts, creating a new vocational unit and enrolling more than the minimum number of students may reduce the state equal yield formula payment by an amount greater than the vocational unit reimbursement, even though vocational classes are generally more expensive to offer. The loss would be greater for poor districts which would thus be less likely to offer vocational programs. Similarly, home school districts in JVSDs have little incentive to send students to the JVS except for the most expensive programs.

No separate funds are appropriated for equipment replacement, although vocational equipment is heavily used and must be replaced as it wears out. Vocational administrators also emphasize the importance of "state of the art" equipment in preparing students for employment, but this concern is not corroborated by staff interviews with employers, teachers, and graduates. The University of Dayton has undertaken a major study of this issue for the Ohio Advisory Council on Vocational Education.

INTRODUCTION

This report presents staff findings on secondary vocational graduate placement and state funding. The staff hopes its report will provide feedback on the results of earlier vocational education policy and funding decisions, and useful information and guidelines for future legislative decisions.

Research Design

Staff research efforts concentrated on graduate job placement and related issues such as graduate job satisfaction and employers' evaluation of graduates' performance. In addition, to determine how state funds could be better distributed to meet vocational program costs, a questionnaire was mailed to the superintendent of each vocational education planning district (VEPD).*

Vocational placement and follow-up data are compiled annually by the state Division of Vocational Education ("the Division"), from reports sent in by each VEPD. To learn more about how the placement process works and how placement data are compiled, staff visited ten VEPDs around the state. These sample districts were chosen randomly from the 65 VEPDs that had graduated their first senior classes by 1976.

The sample districts and locations are:

Joint Vocational School Districts	Comprehensive Districts
Greene (Xenia)	Cincinnati City
Lorain County	East Cleveland City
Medina County	Lima City
Pioneer (Shelby)	Plain Local (Canton area)
Tri-County (Nelsonville)	Warren City

The districts are roughly representative of joint vocational/comprehensive district proportions among all VEPDs. They are distributed around the state with several districts located in the Northeast, Ohio's most densely populated area. One-day field visits were also made to Akron City Schools and Eastland JVS (Columbus area) which were suggested by the Division as having outstanding placement programs.

---

*A VEPD is an administrative designation of the Ohio Department of Education, not a statutory entity.

Staff spent four days in each sample district, the first two days at the schools observing classes and facilities and interviewing teachers and administrators about placement. The other two days staff visited and interviewed area employers of vocational graduates. Most of the 166 employers were interviewed in person at their place of business. Staff also interviewed, by phone, at least ten percent of 1976 graduates in each district, a total of 551 graduates.

Report Outline

The first part of the report, Chapter One, gives the reader some background about vocational education, its history, program structure, and related information. The next four chapters are concerned with placement. Chapter Two looks at placement efforts in the sample districts and how teachers, administrators, students, and employers evaluate them. Placement results are examined in relation to placement efforts, considering overall results in Chapter Three and results for particular programs in Chapter Four. Chapter Five presents the survey findings on how graduates and employers regard the graduates' preparedness and training.

The third part of the report focuses on funding of vocational education. Chapter Six discusses the costs and funding sources of vocational programs and presents the results of a survey of vocational education superintendents concerning funding needs and approaches to state support of vocational programs.

The report also includes five appendices. Appendix One contains relevant federal and state statutes and regulations. Appendix Two briefly describes each of the sample districts and lists the more than one hundred vocational program titles. The questionnaires used in staff field visits to the sample districts and in the superintendent survey are in Appendix Three. Appendix Four presents calculations and data relevant to the fiscal aspects of vocational education in Ohio, and Appendix Five is a bibliography.

CHAPTER ONE

BACKGROUND

This chapter provides historical background, reviews state and federal vocational education statutes, and discusses the structure and funding of secondary vocational or job training programs in Ohio. The statutes and regulations noted in the text may be found in Appendix One.

History and Statutes

Some Ohio public schools offered clerical and industrial courses by local school board initiative in the 1800's. By 1910, Cincinnati had developed cooperative programs with local industry. In 1914, Dayton began a similar program in which vocational students spent half the school day in class and half in shop training. These were among the earliest major examples of cooperative education in the United States. However, Massachusetts was the first to evolve a statewide system of free industrial education beginning in 1906, after a commission found that the state lacked skilled workers and that its public schools needed a less literary spirit. The Massachusetts plan, which incorporated agriculture, domestic arts, and mechanics into the public school curriculum, served as a model for other states.[1].

In the 1800's most jobs could be performed by unskilled workers. Skilled positions were often filled by European immigrants, but by World War I the flow of immigrants had slowed. At the same time, rapid industrialization increased the need for skilled laborers. Although compulsory education laws swelled enrollment, the schools did little to train a skilled workforce. One educator maintained that the U.S. was on a "suicidal" path: "No other people...gives so much heed to the mental training of its citizens and leaves to chance those matters which are really essential in life."[2]

Responding to interest group and Congressional pressures, President Woodrow Wilson appointed a study commission in 1914. The Commission on National Aid to Vocational Education found that vocational training was imperative to prevent the waste of the nation's human and natural resources, to democratize education, and to enhance standards of living and quash social unrest. The Commission recommended that "utility take its place in dignity by the side of culture, and connect education with life by making it purposeful and useful."[3] Its report was well received. In a 1916 "preparedness statement" to Congress, Wilson urged:

> We ought to have in this great country a system of industrial and vocational education under federal guidance and with federal aid, in which a very large percentage of the youth of the country will be given training in the skillful use and application of the principles of success.[4]

---

[1] Charles A. Bennett, History of Manual and Industrial Education Vol. II, (Peoria, Ill., Chas. A. Bennett Press, Inc., 1937), p. 517.

[2] Dr. James E. Russell, "What Is Practical Education?", New York Times, December 16, 1913.

[3] J. Chester Swanson, Development of Federal Legislation for Vocational Education (Chicago, American Technical Society, 1966), p. 35.

[4] Ibid., p. 51.

In 1917, Congress enacted the Smith-Hughes Act (20 U.S.C. Sections 11-16, 18-28). This landmark law appropriated federal funds for federal/state cooperation in paying teachers' salaries for trade, agricultural, industrial, and home economics training, giving the states an economic incentive to expand secondary vocational education. To receive the money, a state had to appoint a board to cooperate with the federal government, prepare state plans showing how federal funds were to be spent, and submit an annual report. The intent was to give the states administrative autonomy while ensuring that federal money was properly spent. Nevertheless, the Act constrained the states by limiting both the number of programs subsidized and the permissible expenditures of federal dollars for those programs.

Within ten months the Smith-Hughes Act was formally accepted by every state. (See Secs. 3303.02-3303.06 O.R.C. for current Ohio law resulting from the Smith-Hughes Act.) For the next 46 years, the Smith-Hughes formula remained virtually untouched. Subsequent federal legislation simply expanded the programs included and increased states' allotments.

Despite the increased availability of federal aid, by the mid-1950's fewer than half of Ohio's school districts offered any vocational programs and many of those offered only one or two. One impediment to expanded vocational education was the difficulty of generating enough money locally to construct and equip vocational facilities. In the late 1950's the General Assembly tried to remedy this problem by establishing a funding unit for vocational training in its new "foundation" program. A related barrier was that the many small districts had inadequate tax and student bases to support vocational programs efficiently. In 1963, after years of debate, the 105th General Assembly passed a law permitting sparsely populated districts to consolidate into taxing units called joint vocational school districts without losing their separate legal identity.

Nationally, the Vocational Education Act of 1963 (20 U.S.C. Sections 1241 et seq.) expanded vocational funding by:

--ending the limits on the programs that could be subsidized and the uses for which federal funds could be spent;

--broadening the definition of vocational education to include "related" classroom instruction;

--encouraging cooperative programs with business;

--funding new construction for the first time, especially of "area" schools;

--creating a national advisory council;

--urging cooperation with employment services;

--pushing for state initiatives on new programs for a changing economy; and

--encouraging the development of "special needs" programs.

The 1917 Smith-Hughes Act was designed to meet employers' needs in selected fields, whereas the 1963 Act "focused on the people who needed skills rather than the occupations which needed people."[5] The expanded definition of vocational education in the 1963 Act was widely interpreted to include placement services for graduates although such language was not codified.

The 1963 Act allowed, but did not require, federal money to be used in new ways. Few states used the greater flexibility to expand special needs curricula or initiate new programs. The National Advisory Council's 1968 report found that 60 percent of high school students were neither in vocational nor college preparatory courses, but in "general" high school curricula.

The Vocational Education Amendments of 1968 were designed to correct these problems. Some money was earmarked for specific purposes again: 15 percent of the basic grant for special needs programs; 10 percent for the handicapped. Instead of justifying matching funds on a program-by-program basis, Congress encouraged flexibility and innovation by allowing the states to allocate among programs. Disgruntled with educators in the state bureaucracies, Congress required the establishment of state advisory councils (comprised of representatives from management, labor, agriculture, etc.) in the hope of encouraging innovation.

The 1968 Amendments also included job placement in the expanded definition of vocational education for the first time. This permitted the use of federal funds for job development efforts. New federal regulations required the states to include information on vocational graduate job placement and satisfaction in their annual reports and to conduct five-year follow-up studies.

In Ohio, a 1969 bond issue provided $75 million to match local funds for the building of vocational facilities. The 108th General Assembly also passed H.B. 531 in 1969, making Ohio the first state to require access to secondary vocational education for all its youth. The statute provides that "each school district shall establish and maintain a vocational education program adequate to prepare a pupil enrolled therein for an occupation which program shall meet standards adopted by the state board of education." (Sec. 3313.90 O.R.C.)

The Board's standards require local districts to be capable of providing vocational training to at least forty percent of their high school juniors and seniors. Furthermore, each district must offer a minimum of 12 programs, at least eight of which are provided on-site at the school, and 20 classes.

Section 3313.90 O.R.C. establishes a minimum enrollment of 1,500 pupils in grades nine through twelve as a base for comprehensive vocational offerings. A district may meet the requirement in any of five ways: (1) alone, (2) in cooperation with other districts (Sec. 3313.92 O.R.C.), (3) by school district consolidation, (4) by membership in joint vocational school districts (Sec. 3311.18 O.R.C.), or (5) by contract with another school district. Any school board may purchase vocational training services from any public or private body upon approval by the State Board (Sec. 3313.91 O.R.C.), but this option is not heavily used in Ohio.

---

[5] Rupert N. Evans, et al., Education for Employment: The Background and Potential of the 1968 Vocational Education Amendments (Ann Arbor, Michigan, Institute of Labor and Industrial Relations, 1969), p. 8.

The State Board may assign a school district to a JVSD or require it to contract with other districts. About 50 districts met the requirements alone; most others formed jointures; and some contracted with other districts. A few were forced into one of these postures by the State Board.

The most recent federal legislation, the Vocational Education Amendments of 1976 (20 U.S.C. 2301 et seq.), require greater input from local craft and advisory councils to encourage innovation and facilitate reporting by requiring a comprehensive plan only every five years and a streamlined document annually. Beginning in 1978, placement reports are to include employer satisfaction data.

Secondary Vocational Training: Its Context and How It Works

Career Education

Ideally, secondary vocational education or job training programs are one segment of the continuing process of career education, which is intended "to enable every person to make informed choices as he develops his own career."[6] Ohio's curriculum guides for career education include three phases in grades K-6 is designed

> to help children develop an awareness of themselves, the world of work, and their place in the world of work; to help students develop an appreciation for all work; and, to help students develop motivation to be part of the world of work.[7]

"Career orientation" in grades 7 and 8 should help

> students develop an understanding and attitude about jobs, self, and society. Through...in-school and community-based involvement, students look at the nature of jobs, education requirements for jobs, and the labor market projections for future employment.[8]

---

[6] James P. Spradley, "Career Education in Cultural Perspective" in Essays in Career Education, Larry McClure and Carolyn Brion, Eds., (Portland, Oregon, Northwest Regional Education Laboratory, 1973), p. 10.

[7] Ohio Advisory Council for Vocational Education, Vocational Education is Focusing on the Future (Eighth Annual Report, Columbus, 1977), p. 5, italics in the original.

[8] Ibid., p. 6.

[9] Ibid., p. 6.

"Career exploration" in grades 9 and 10 should "provide all students with the opportunity to examine and gain firsthand experience with several career clusters consistent with individual interests and abilities."[9] By the tenth grade, the student should be prepared to make a career choice which will determine whether s/he will enter secondary vocational education (job training), prepare for post-secondary technical education (described below) or four-year college training, or remain in a general high school curriculum. Only about 45 of the state's 613 school districts, however, have incorporated these preparations for career choices into their curricula.

Job training is an option available to almost all high school juniors and seniors in Ohio, and is intended to serve about forty percent of them. Each program is "designed to provide the necessary technical skills and related instruction to prepare individuals for entry-level employment in an occupation related to that program."[10] The broad program groups or "taxonomies" and their 1976 enrollments are:

TAXONOMY	NUMBER ENROLLED	SAMPLE PROGRAM
Agricultural education	23,700	farm business management
Business and office education	30,900	stenography
Distributive education	11,100	general merchandising
Health education	3,700	dental assisting
Home economics education	7,900	child care
Trade and industrial education	57,100	welding
Special needs education	28,200	occupational work experience (OWE)
TOTAL	162,600	

Besides full-time job training programs, on which this report will concentrate, most vocational districts offer a wide range of part-time vocational training to both junior high school students and adults. In 1976, 200,000 adults took part-time "adult job training" geared to career advancement; another 27,000 were enrolled full-time in "post-secondary education." Such "lifetime learning" opportunities are also part of career education.

Finally, technical education prepares people to work as paraprofessionals or technicians, emphasizing "the acquisition of scientific and technical knowledge with work skills as a corollary."[11] Technical education is a college-level program offering two-year associate degrees and is therefore under the jurisdiction of the Ohio Board of Regents rather than the Department of Education. In theory, secondary vocational training and technical education should be complementary, but in fact some overlap occurs (see Chapter Four).

---

[10] Ibid., p. 6.

[11] Memorandum of Understanding on Technical and Vocational Education between the Ohio Board of Regents and the Ohio Department of Education, 1969, p. 2.

Structure of Secondary Vocational Education

In 1976, about 36 percent (163,000) of the 450,000 eligible high school students were enrolled in job training programs in Ohio's 102 vocational education planning districts (VEPDs). Half the VEPDs are jointures (JVSDs), each of which has its own school board, administrative structure, and (generally) a centrally located vocational facility. The joint vocational schools serve only eleventh and twelfth graders. They cover 510 "home school" districts (83 percent of the total number) but enroll only about one-third of the job training students, in part because the 510 districts are generally those with the smallest total enrollments. Students graduate from their home schools and the JVS does not offer extracurricular activities.

The other VEPDs include 32 school districts each of which meets the Department's minimum criterion of at least 1,500 high school students, and 20 "contract" districts of two or more school districts each. They cover a total of 71 school districts. (The one remaining VEPD is an anomaly which includes a school district in Indiana.) Most large city districts are single districts (e.g. Akron City) or contract districts offering services to suburban school districts (e.g. Columbus City). These VEPDs enroll about two-thirds of all Ohio job training students. They are called "comprehensive" districts in this report because they provide K-12 education, including college preparatory and general high school curricula, as well as eleventh and twelfth grade job training. On the average, these districts enroll a higher percentage of eligible students than the joint vocational schools.

Full-time vocational students take three hours a day of "hands-on" skills training in their program's lab or shop, plus 1½ hours of related class instruction or "theory" courses, all taught by the same instructor. They must also complete the state academic requirements in English and civics. Students in "coop" or cooperative education programs spend their three training hours in supervised employment at "job stations" or "training stations" away from school. Many students are also active in vocational organizations, such as Future Farmers of America and Vocational Industrial Clubs of America.

The state Division of Vocational Education requires all vocational instructors to have some nonteaching work experience. Few colleges train vocational teachers. Therefore, the Division recently published a series of teacher training manuals called The Heart of Instruction, and the state universities have cooperated in developing a program using "teacher educators" to train tradespeople to become vocational instructors. Because tradespeople often earn more than teachers, VEPDs must often pay substantially more than the state minimum salary to recruit qualified vocational instructors.

Most VEPDs have an advisory council or "craft committee" for each program, composed of local tradespeople, businesspeople or professionals in the field who meet at least once a year to advise teachers and administrators on such issues as curriculum development and equipment updating. The councils are federally mandated and intended to keep educators up-to-date on both new technology and community manpower needs in each vocational program. Staff noted substantial variations in how active the councils are.

Advisory councils also participate in the federally required program review. In Ohio, this is known as PRIDE (program review for improvement, development, and expansion), and each VEPD goes through the process once every five years. PRIDE includes review of administration, guidance, curriculum, instructional staff, student qualities, facilities and equipment; cost analysis; and product review. The Division publishes guidelines for the process.

Funding Job Training Programs in Ohio

Vocational training is expensive. In Fiscal Year 1975, vocational education (including part-time secondary, post-secondary and adult education) cost almost $183 million (Table 1.1). The number of participants rose by 226 percent from 1966 to 1975, but during the same period state subsidies increased 563 percent.

Table 1.1
VOCATIONAL EDUCATION EXPENDITURES, FY 1974 & 1975

	FY 1974	FY 1975	Change
Total Expenditures	$175 million	$183 million	+$7 million (+4%)
Secondary Job Training	$ 73 million (42%)	$ 72 million (39%)	-$1 million* (3%)

Source: Division of Vocational Education, Ohio State Plan for Administration of Vocational Education.

Vocational funding comes from three sources: the federal government, local property taxes, and state appropriations. In the early 1970's, the federal contribution has remained relatively constant while the state share has increased and the local districts' share decreased (Table 1.2).

Table 1.2
SOURCES OF SECONDARY VOCATIONAL FUNDS, FY 1972-1975

	State	Local	Federal
FY 75	55%	29%	16%
FY 74	57	27	16
FY 73	54	28	18
FY 72	49	35	16
AVERAGE	54%	30%	16%

Source: Ohio Advisory Council on Vocational Education Annual Reports.

The same funding sources pay for all secondary education expenditures. (Table 1.3). However, average rates of support differ. The state paid an average of 43 percent of all secondary education costs and an average of 54 percent of vocational education costs. State aid for vocational programs is distributed to districts on a classroom unit basis, rather than a per pupil formula like state basic aid. Local districts, which paid over half the costs of all secondary education, paid only 30 percent of the costs of vocational programs.

---

*This reduction in direct reimbursement was accompanied by an increase in state administrative costs.

Table 1.3
SOURCES OF SECONDARY EDUCATION FUNDS, FY 1972-1975

	State	Local	Federal
FY 75	46%	49%	7%
FY 74	51%	42%	7%
FY 73	41%	54%	5%
FY 72	34%	60%	6%
AVERAGE	43%	51%	6%

Source: Ohio Advisory Council on Vocational Education Annual Reports.

Per pupil expenditures for full-time vocational students are much higher than those for academic students. For example, expenditures for JVS students averaged about 150 percent of those for all secondary students (Table 1.4).

Table 1.4
PER PUPIL EXPENDITURES, FY 1974-1976

	FY 74	FY 75	FY 76
All Secondary Pupils	$ 970	$1,080	$1,200
JVS Pupils	$1,530	$1,630	$1,720

Source: Ohio Department of Education Annual Reports.

A full-time vocational class (22.5 hours of instruction per week) cost over $27,000 in 1975-76 (Table 1.5). The instructor's salary accounts for more than half the total.

Table 1.5
AVERAGE EXPENDITURES FOR A VOCATIONAL CLASS, 1975-76 SCHOOL YEAR

	Amount	Percent
Teacher's Salary	$14,300	53%
Text and Supplies	$ 1,500	6
Lab Equipment	$ 2,500	9
Administrative Salaries	$ 3,100	11
Other Administrative Costs	$ 900	3
Operation/Maintenance	$ 3,000	11
Other	$ 1,900	7
TOTAL	$27,200	100%

Source: Secondary Vocational Education Instructional Program Costs, Ohio Department of Education, Columbus, 1976.

A detailed discussion of state, local, and federal funding formulas and the costs they can be used to pay may be found in Chapter Six.

CHAPTER TWO

PLACEMENT ADMINISTRATION

The districts which seem to have made the most effort to place students are characterized by administrative dedication to placing students, centralized placement services headed by a placement coordinator and a high level of teacher participation in placement activities. Students and teachers alike believe that both school and student should be involved in finding jobs. Employers suggested a need for more contact with the schools and endorsed the use of school placement coordinators to improve placement efforts.

This chapter is based on formal questionnaires administered to vocational instructors and the placement coordinator (if any) or an administrator in each sample district. From six to twenty instructors were interviewed at each school. Material in this chapter is also based on observation and on employer and graduate questionnaires. The questionnaires may be found in Appendix Three.

Placement Administration in the Sample Districts

Working Proposition

Based on information derived from vocational education literature and interviews with knowledgeable individuals, the staff determined that a strong commitment to placement would probably be characterized by three factors:

(1) An administration dedicated to placing all the school's students in jobs in their field of training ("in-field") or in related jobs upon graduation;

(2) Centralized placement services headed by a placement coordinator; and

(3) A perception by teachers that it is their duty to place students in jobs.

Conversely, a weak commitment to placement would be marked by the absence of these characteristics. This premise was generally borne out by the comments of teachers and administrators on the strengths and weaknesses of their district's placement system, by the responses of graduates when asked how much their school did to help them find work after graduation, and by the staff's finding that the strong districts had a higher percentage of students in "early placement"--a concept which requires further elaboration before proceeding to look at the districts.

Early placement is used by some schools to move senior students into an in-field or related part-time job before graduation. Generally, the work experience takes place during the usual lab hours of the school day. Some schools encourage early placement for all students; other schools use it as an inducement for good grades and attendance and offer it only to above-average students. It may extend for the entire last semester or only for the last nine weeks of the senior year. An early placement program requires agreement among employer, school, and student concerning duties, hours, and wages. While the employers need not employ the

students upon graduation, they frequently do. At Lorain County JVS the early placement system was the school's primary placement effort and significantly reduced the need for post-graduation efforts. Early placement is always the responsibility of the instructors and administrators. Thus, the staff proposed that high early placement percentages would indicate a greater commitment to placement by the school.

Staff Observations

Lorain County JVS, Medina County JVS, and Pioneer JVS evinced a strong commitment to placement. Administrators in these schools encourage senior teachers to place all graduates and take pride in the teachers' placement successes. Teachers feel that placement is an integral part of their jobs. Lorain and Medina both have placement coordinators who serve as clearinghouses for employer needs and student opportunities. Pioneer recently appointed a coordinator to improve placement services after having an unsatisfactory experience with a part-time coordinator from the Bureau of Employment Services (see p. 15). Two-thirds of the graduates in each of these districts credited the school with providing "a great deal" or "some" help in finding employment after graduation. No other district had more than 55 percent of its students so respond, and most were between 40 and 50 percent. Also, the three districts emphasize early placement. An administrator at Lorain estimated that 86 percent of all seniors took part in early placement. Seventy-five percent of Medina's seniors and 73 percent of Pioneer's participated, according to administrators in those schools. No other sample district had more than two-thirds of its seniors in early placement (see Table 2.1, p.13).

By contrast, Lima and East Cleveland demonstrated weak placement commitment. Neither school had comprehensive placement schemes. Nor was there a placement coordinator in either district, although administrators in both schools admitted needing such a person. (East Cleveland recently acquired a BES coordinator.) Placement was left to teacher initiative and seldom encouraged; in fact, at East Cleveland an administrator emphasized that placement is not and should not be a teacher responsibility. Forty-two percent of the East Cleveland graduates and 43 percent from Lima credited their schools with doing "a great deal" or "some" to help them find employment (see Table 2.1). Only two districts had less-satisfied students (both at 40 percent). Thirty-two percent of Lima's seniors and 25 percent of East Cleveland's participate in early placement. Only Warren (at 18 percent) and Cincinnati (with no early placement) ranked lower on this criterion.

The other five districts cannot be characterized as "strong" or "weak." Placement efforts in these schools are characterized as "variable." In Greene JVS, Tri-County JVS, and Plain Local districts, the administrators encourage teachers to cultivate jobs and place students. Warren City Schools have a part-time placement coordinator who has many other responsibilities and works almost exclusively with business students. Teachers there felt placement was the function of the coordinator and often commented that the position should be full-time. Cincinnati has six placement coordinators for handicapped and disadvantaged students, who comprise more than 50 percent of the vocational student body, but no one is responsible for general student placement. In these five dis-

tricts, some teachers aided placement on a voluntary basis; many felt it was their duty. But teacher efforts varied. Administrators and teachers frequently cited the need for coordinated placement activities.

Table 2.1 summarizes some of the data discussed above.

Table 2.1
SAMPLE DISTRICT PLACEMENT COMMITMENT

Factor School[2]	Placement coordinator	Percent of graduates perceiving great deal or some help[1]	Percent of seniors in early placement
Strong Commitment:			
Lorain Co. JVS	Yes	67%	86%
Medina Co. JVS	Yes	66%	75%
Pioneer JVS	Yes[3]	67%	73%
Variable Commitment:			
Cincinnati City	No[4]	49%	0
Greene JVS	No	55%	65%
Plain Local	No	40%	40%
Tri-County JVS	No	40%	50%
Warren City	Yes	51%	18%
Weak Commitment:			
East Cleveland City	No[5]	42%	25%
Lima City	No	43%	32%

1. Two other categories are excluded here: "nothing" and "no need."

2. No attempt was made to rank schools within the "commitment" categories. They are alphabetized.

3. Pioneer had a coordinator from BES who was recently replaced.

4. Only for students with special needs.

5. East Cleveland now has a BES coordinator.

Table 2.2 further corroborates the strength of the placement commitment in Lorain, Medina, and Pioneer. Higher percentages of their 1976 graduates who hold or have held jobs said the school referred them to their first employer.

Table 2.2
HOW DID YOU FIND YOUR FIRST JOB AFTER GRADUATION?

	School referred	Found myself	Other	Total	(N)
Lorain JVS	42%	46%	12%	100%	(48)
Medina JVS	41%	48%	11%	100%	(27)
Pioneer JVS	36%	56%	8%	100%	(39)
Lima City	36%	43%	21%	100%	(44)

	School referred	Found myself	Other	Total	(N)
Plain Local	32%	47%	21%	100%	(38)
Warren City	32%	38%	30%	100%	(37)
Cincinnati City	24%	45%	31%	100%	(135)
Greene JVS	22%	61%	15%	100%	(45)
East Cleveland City	21%	58%	21%	100%	(29)
Tri-County JVS	15%	56%	29%	100%	(34)

Lima, which the staff characterized as having a "weak" placement commitment, was credited with finding more first jobs than the staff would have expected. Conversely, Tri-County, with a moderate placement commitment, fared more poorly than might have been anticipated. Local economic data explain these incongruities in part (see Chapter Three).

The three categories of commitment discussed in this chapter led the staff to propose that districts with strong commitments to placement would place a higher percentage of their graduates in jobs in their field of training or related jobs than districts with weaker placement commitments. This premise is tested and the results are detailed in Chapter Three.

How the Main Participants Evaluate Placement Administration

Important factors for placement success

Teachers and placement coordinators considered teacher efforts to be one of the strongest aspects of the placement system. Placement efforts keep teachers in close contact with employers which in turn helps keep the course curriculum up-to-date. Furthermore, both teachers and employers felt that the teachers' familiarity with each student's capabilities facilitates an accurate match of the student or graduate with the employer's specific job opening. Generally, teachers solicit jobs for their own students and graduates. Some schools provide time during school hours and mileage reimbursement* to teachers for job development.

Teachers and administrators also frequently cited the quality of the graduates as a key element in placement. A positive reputation for the school, its programs, and their graduates encourages continued placement. Districts with placement coordinators stressed the "team effort" of teachers, administrators and employers to place students.

Placement system weaknesses

The aspects of the placement system cited by teachers and administrators as most in need of improvement were:

--time for teachers to make contacts with employers

*The Division authorized $1.8 million in travel money in 1978 to reimburse school districts for 75 percent of the cost of secondary vocational training program job development activity. Much of this is used for co-op coordinators and early placement efforts. Apparently some districts do not avail themselves of these funds; the Division does not maintain these records by district.

--financial support for placement

--building employer awareness of vocational programs

--coordination of placement efforts (where there was none)

--placing weaker students.

Schools having limited or no experience with a placement coordinator almost all indicated that, ideally, a placement coordinator should be the single most important person in the placement system. In schools which had experience with a coordinator, instructors were often ranked most important in the ideal system. This suggests the continued importance of the teacher, even in a coordinated system, and the inability of any one person effectively to place a large number (hundreds) of graduates. In fact, the coordinator often assumes administrative duties--public relations, handling information flow, acting as a central contact for employers, follow-up--which improve the overall placement system but do not replace the job development responsibility of instructors.

An important placement problem is the teachers' reluctance to recommend or refer weaker students for jobs. Such students create a dilemma for the teacher who must rely on employers' continued good will for future placements. This problem is more serious in districts which have a larger proportion of weak students due to the socioeconomic composition of the district or relaxed or nonexistent entry screening for vocational training programs (see p.36). The frequent mention of "quality of students" as an important factor in placement underscores the significance of this problem.

Ohio Bureau of Employment Services Coordinators

Most of the sample districts do not work directly with the Ohio Bureau of Employment Services (BES) except to mention it to students as a possible source of placement assistance. However, at East Cleveland City and Lorain County JVS, BES personnel work full-time at the schools as placement coordinators. East Cleveland staff are pleased to have this help because no one had previously been heavily involved in placement. Because this is the first year of the program at Lorain, no evaluation of the services has been made.

Statewide, BES has 15 full-time personnel working as placement coordinators in secondary schools. The program was started approximately four years ago, using federal funds, because the Bureau determined that their employees could ultimately develop enough job placements to compensate for their own costs. Bureau administrators believe that they have succeeded and have applied to the U.S. Department of Labor for additional funding to expand the program to 35 positions.

Citing their high number of placements at schools using their services, BES officials point out that their employees can provide more job options for graduates than can teachers because the former are aware of openings in a broader geographic area and in fields that are not specifically related to the graduates' training. They also state that their workers are more willing than most teachers to place weaker students.

A number of the sample schools consider BES a valuable source of placement information and think that BES employees could provide additional assistance as placement coordinators. However, they would prefer state funding to enable them to hire their own placement coordinators which would give them more control over both who is hired and what actions are taken. Administrators and teachers at these schools feel that, no matter how placement is administered, teachers should be responsible for placing their students. These educators state that the instructors know their students' capabilities and have often built a solid working relationship with employers based on trust and past performance. Administrators also feel that, if they must find jobs for their students, teachers will keep their courses up-to-date and sound. Finally, many teachers have great pride in their efforts and successes. Educators expressed concern that these elements would disappear if BES employees were given primary responsibility for placement of graduates.

Instructor and graduate attitudes about placement

Graduates were asked, "Who do you think should be more responsible for placing the student in his or her first job, the school or the student?" Opinions were divided but the largest number said both should work together to place students, even though the question was not phrased to offer them that option (Table 2.3).

Table 2.3
GRADUATE ATTITUDES ON PLACEMENT RESPONSIBILITY

School	30%
Student	31
Both	39
	100% (N=475)

Some students who said the school should be responsible commented that they had been told the school would help them find work when they graduated. Those who felt the student should be responsible often indicated that finding a job was part of what vocational education had trained them to do for themselves.

Teachers and administrators agreed overwhelmingly that the school should be responsible for placement of graduates but also that "students should be more involved in finding their own jobs" (Table 2.4).

Table 2.4
TEACHER ATTITUDES ON PLACEMENT RESPONSIBILITY

	School Responsible	More Student Involvement
Strongly agree	44%	32%
Agree	42	45
Undecided	4	11
Disagree	9	11
Strongly disagree	1	1
TOTAL	100% (N=95)	100% (N=97)

Thus, teachers and graduates appear to agree that both parties should be involved in placement efforts.

Employer Suggestions to Schools

The staff asked employers what else the schools should be doing, either to train better potential employees or to notify businesses of their availability.

Community relations

Several employers felt that vocational programs are viewed as "a dumping ground" for "dumb" or "problem" students. They strongly urged better public relations and use of the media by the schools to overcome this stigma in the community and among other employers. "When they produce qualified students, they should advertise the reason."

Business relations and placement

Many employers expressed a desire for "more contact" or "better liaison" with secondary vocational schools in their area, and a number offered suggestions for such contacts. "Make schools have an industry night with local firms' representatives to inform students where and what kind of jobs are available." "Invite industry out to see the school. Teachers should go to all plants and see operations to get a good idea of what plant has. Businesses change--teachers should periodically make a survey of what employment needs are." Other employers suggested holding "Career Days" at the school, visits to employers by school personnel ("come around and see what we're doing"), or other activities to "tie schools closer to work places." One employer suggested that the State Department of Education should take responsibility for letting business know more about vocational program offerings.

Some employers think vocational education should be a training program for their industry or company. "It's very important to check employer needs. We are a large independent tool shop and the school gives us little personal consideration about what we require. They must do more to meet our needs." "We would like to have a feeder system into our company for certain skills." Many vocational schools do teach the specialized skills such companies need, but as adult job training or retraining rather than in full-time secondary programs.

Some employers were willing to employ graduates in certain programs but got little response from the schools or wanted them to make the first move. A few suggested that the schools send brochures explaining the vocational curriculum, lists of graduates in the various programs, student resumes, or other written credentials to area companies for review. One employer suggested that vocational students be paired with older workers in a "buddy system" for on-the-job training.

After the general desire for more contact, employers most frequently suggested that schools improve their placement programs for vocational graduates. "The school should have one coordinator who acts as a clearinghouse for

placement." "There should be a centralized placement person to check with us--no one does now." The district should have a "centralized placement department to list openings and graduate availability." Two employers suggested that the school integrate its placement operations with BES. In Cincinnati, an employer suggested a coordinator for inner city schools "to monitor the program and make it more efficient and responsive to students. Outlying (suburban) high schools show more organization and concern for their students."

In all these cases, the employers would find it more convenient to have a single contact person at the school, especially large or diversified employers who may hire graduates from several programs. Personal contact with the teacher may work best for small specialized businesses (auto body shops or hairdressers, for example). These employer comments tend to support instructors' and administrators' judgments about the desirability of coordinating placement efforts.

CHAPTER THREE

OVERALL PLACEMENT RESULTS

Vocational graduates' success in finding work in their field of training appears to be related to the degree of placement effort in the district. Vocational graduates generally have unemployment rates much lower than those of other youth, but above general unemployment. General economic conditions in the district affect graduate employment, as do student body variables and job competition. Ohio vocational graduates' overall placement success rate is better than the national average and that of most nearby states.

Graduate placement records can be viewed from several perspectives. To find whether a positive relationship exists between placement success and strong placement commitment as defined in Chapter Two, this chapter compares the sample district placement records with each other and with the state average. Next vocational graduate unemployment rates are compared to general unemployment rates in each district and statewide. Then Ohio's record in placing vocational graduates is compared to that of neighboring states and to the national average. Finally, other factors affecting overall placement results are presented.

Sample District Employment Data

Graduates Employed In Field of Training

There may be some relationship between the strength of a district's placement commitment and the employment record of its graduates. Figures 3.1 and 3.2 pp. 21 and 22) compare sample districts' placement in field of training for all graduates and as a percent of those graduates available for employment, to statewide averages for vocational graduates. Generally when the economic climate is poor, fewer graduates find work in their fields and more are unemployed, although some sample districts did not follow the statewide pattern. Two of the schools with the strongest placement commitment, Lorain and Pioneer, had both high graduate employment rates and high rates of in-field placement, either at or well above the state average. Medina, the third strong placement school, did not fare as well as would have been expected, with placement somewhat below the state placement averages. The weakest districts, Lima and East Cleveland, had employment far lower than the state average and often the lowest of all of the districts. Plain Local, one of the mid-range placement commitment districts, showed employment well above the state average in 1975 and very near the average in 1976. This district does not follow the anticipated placement pattern based upon the commitment proposition. Also, Plain Local's employment peaked in 1975, which was generally a year of increased unemployment.

Figures 3.1 and 3.2 deal with somewhat different populations. Figure 3.1 is based on all graduates; Figure 3.2 on graduates who are available for employment. The proportion of graduates in the job market may decline in a poor economic climate. "Unavailable" graduates may join the military, enroll in higher education, get married, or simply drop out of the job market. Statewide, the percentage of vocational graduates available for employment was roughly equal in 1974 and 1976 but dropped slightly in 1975, economically the worst of the three years.

Unemployed Graduates

Figure 3.3 (p.25) illustrates the unemployment pattern of graduates in each district and general unemployment in each district. (General unemployment data are on a countywide basis and thus are generally more accurate for JVSDs than for comprehensive districts.) In two of the strongest placement commitment districts, Lorain and Pioneer, unemployment among graduates was lower than the overall unemployment rate. Graduate unemployment in Medina, the third strong commitment district, was very close to the area unemployment figure. Once again Plain Local fared better than would have been expected based upon the placement commitment of the district with graduate unemployment well below the area's average. Unemployment in the weakest placement commitment districts was considerably above the general unemployment figure; however, several other districts also had graduate unemployment above area averages.

One cannot conclude from this data that the relationship between graduate unemployment and placement commitment is positive. Clearly, however, general economic conditions and area unemployment are important factors in placement success.

Summary of Sample District Data

The placement data do not consistently support the premise that sample districts which have strong placement commitment will also have strong placement results. Of the three strong placement commitment districts--Lorain, Pioneer, and Medina--only one, Lorain, was consistently above the state averages and the other sample districts in placement results.

One district in the middle commitment group, Plain Local, consistently ranked higher than expected. This district not only exceeded other sample districts in placement results but also frequently surpassed state averages.

The commitment proposition was most successful in predicting the percent of total graduates employed full-time in field of training (Figure 3.1, p.21). This may reflect the strong placement districts' emphasis on finding in-field jobs for graduates. Where a larger percentage of graduates must find their own jobs, as would be expected in the lower commitment districts, many graduates do obtain employment but, having less placement guidance, are less likely to find in-field employment.

General vs. Vocational Unemployment Data

Like other teenagers, vocational graduates suffer from employers' preference for hiring experienced workers, but unlike many young job-seekers, vocational graduates already have skills. Thus one would expect their unemployment rate to fall between those of the general and youth populations. Figure 3.4 shows that this is the case (p.26).

The continued rise in sample district graduate unemployment from 1975 to 1976 is primarily caused by Cincinnati, the largest district in the sample and one of three where graduate unemployment peaked in 1976 rather than 1975. General and graduate unemployment data for 1974-1976 in individual districts are shown in Figure 3.3. The general unemployment figures were obtained from the Ohio Bureau of Employment Services and are based on countywide unemployment. For the purpose of strict comparisons, the general unemployment data are more accurate for the geographically large JVSDs. Particularly in the larger cities (Cincinnati, Warren, East Cleveland) countywide unemployment is likely to be lower than rates in the city itself.

Even among the districts with above average graduate unemployment rates, none surpassed the statewide youth unemployment rate. Youth unemployment is high, particularly in inner-city areas where black youth unemployment may be twice the overall youth unemployment rate.[1] Comparing graduate unemployment with the youth unemployment data may be misleading since, for example, the youth figures include high school students and dropouts seeking part-time work. Still, in a school system with a large black population, such as Cincinnati, a graduate unemployment rate significantly below the general youth unemployment rate is indicative of placement success.

Vocational Graduate Employment: Ohio vs. Other States

All states report summaries of vocational graduate placement to the U.S. Office of Education. Because of reporting discrepancies these may not be completely comparable. The most recent available data for Ohio, nearby states, and national averages are displayed in Tables 3.1 and 3.2.

Table 3.1
PERCENT OF ALL GRADUATES EMPLOYED
IN FIELD OF TRAINING OR A RELATED FIELD*

	FY 1974	FY 1975	FY 1976
Illinois**	27%	26%	27%
Indiana	49	49	46
Kentucky	32	27	51
Michigan**	14	NA	19
OHIO	52	47	50
Pennsylvania	NA	25	22
West Virginia	39	35	32
U.S. Total	34%	31%	31%
U.S. Total voc-ed graudates	863,000	1,265,000	1,378,000

* All percentages rounded to nearest whole number.

**Illinois and Michigan had a much higher proportion of graduates in the "status unknown" category than the national average of about 14 percent. Indiana, Ohio, Pennsylvania, and West Virginia were consistently well below the national average for "status unknown."

[1] William Papier, "Employment and Unemployment Among Ohio's Teenagers" Bulletin of Business Research (Vol. LI No. 8), August 1976, p. 6.

Table 3.2
GRADUATES EMPLOYED IN FIELD OF TRAINING OR A RELATED FIELD, AS A PERCENT OF THOSE GRADUATES AVAILABLE FOR EMPLOYMENT*

	FY 1974	FY 1975	FY 1976
Illinois	57%	61%	57%
Indiana	78	76	70
Kentucky	61	61	79
Michigan	51	NA	41
OHIO	62	65	69
Pennsylvania	NA	38	33
West Virginia	61	58	55
U.S. Total	64%	58%	58%
U.S. Graduates Available For Employment	467,000	677,000	721,000

*Graduates available for employment excludes status unknown, continuing education, and other reasons (military, marriage, etc.). All percentages rounded to nearest whole number.

Source: U.S. Office of Education, Learning a Living Across the Nation, Washington, D.C., Department of Health, Education, and Welfare, 1977.

The tables illustrate that the proportion of Ohio's vocational graduates who find employment (not necessarily related work) is consistently above the national average and generally better than the record of nearby states.

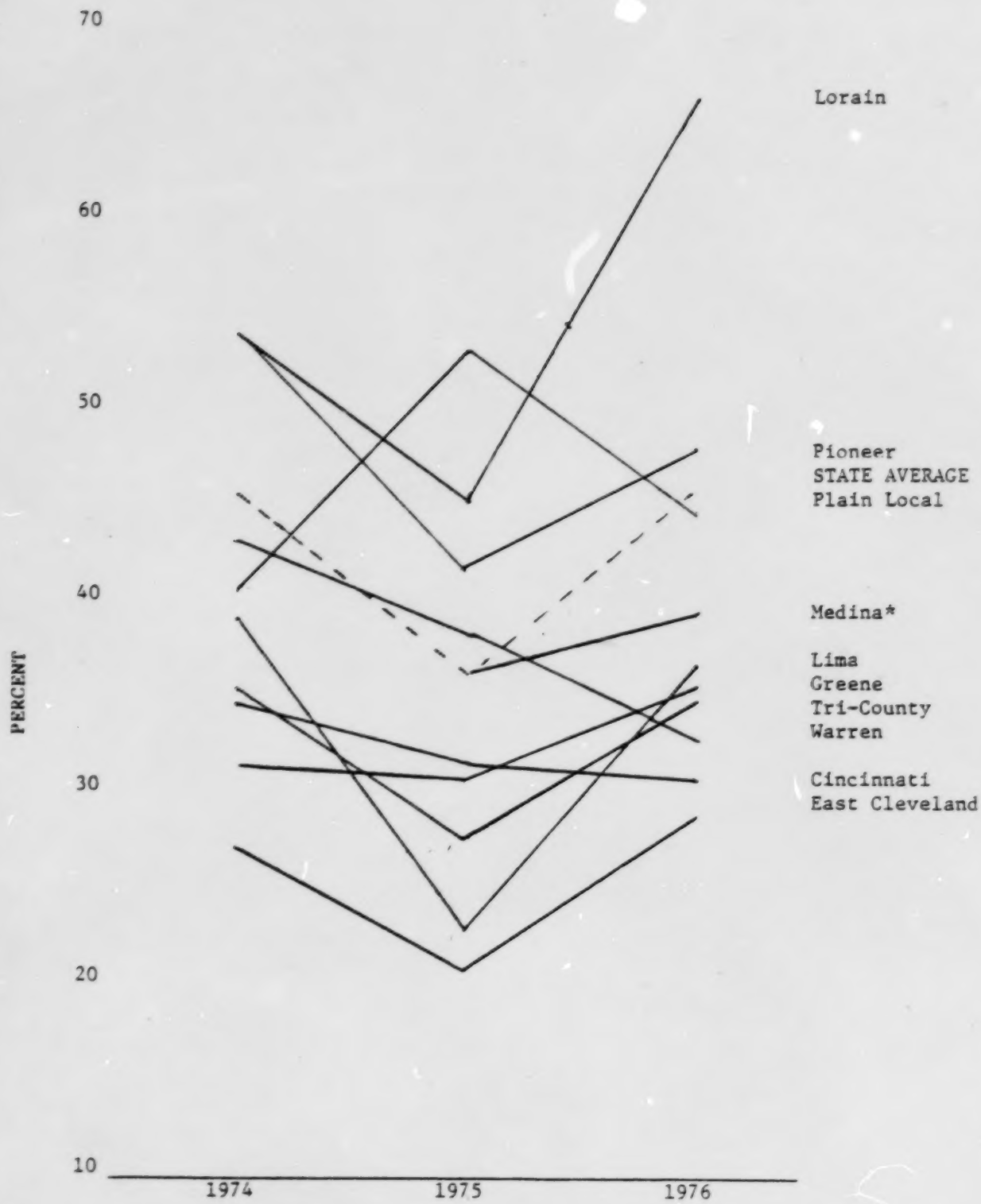
Note on State Placement Data Compilation

State statistics on Ohio graduate status are compiled from state forms (VE-23, in Appendix Two) filled out by each VEPD. The sample district personnel who complete these forms seem conscientious, but staff noted variations among sample districts in interpreting and using certain categories. For example, some districts rely more heavily on "not available for placement" as a catch-all category than others, and some districts interpret "related field" more stringently than others. Some graduates are working and attending school, and these individuals are difficult to report accurately. Such variations undoubtedly occur among all VEPDs and among the states in their reports to the U.S. Office of Education.

In most districts, graduates are surveyed by mail and self-report their work status. Where graduates do not respond, teachers generally follow up by telephone. A central administrator, the placement coordinator if the school has one, then compiles the report. However, a school district may vary its reporting procedure from year to year. For example, in 1976 Cincinnati shifted from a teacher oriented follow-up program to a direct mailing to graduates. A Cincinnati administrator indicated that the increase in graduate unemployment recorded

FIGURE 3.1

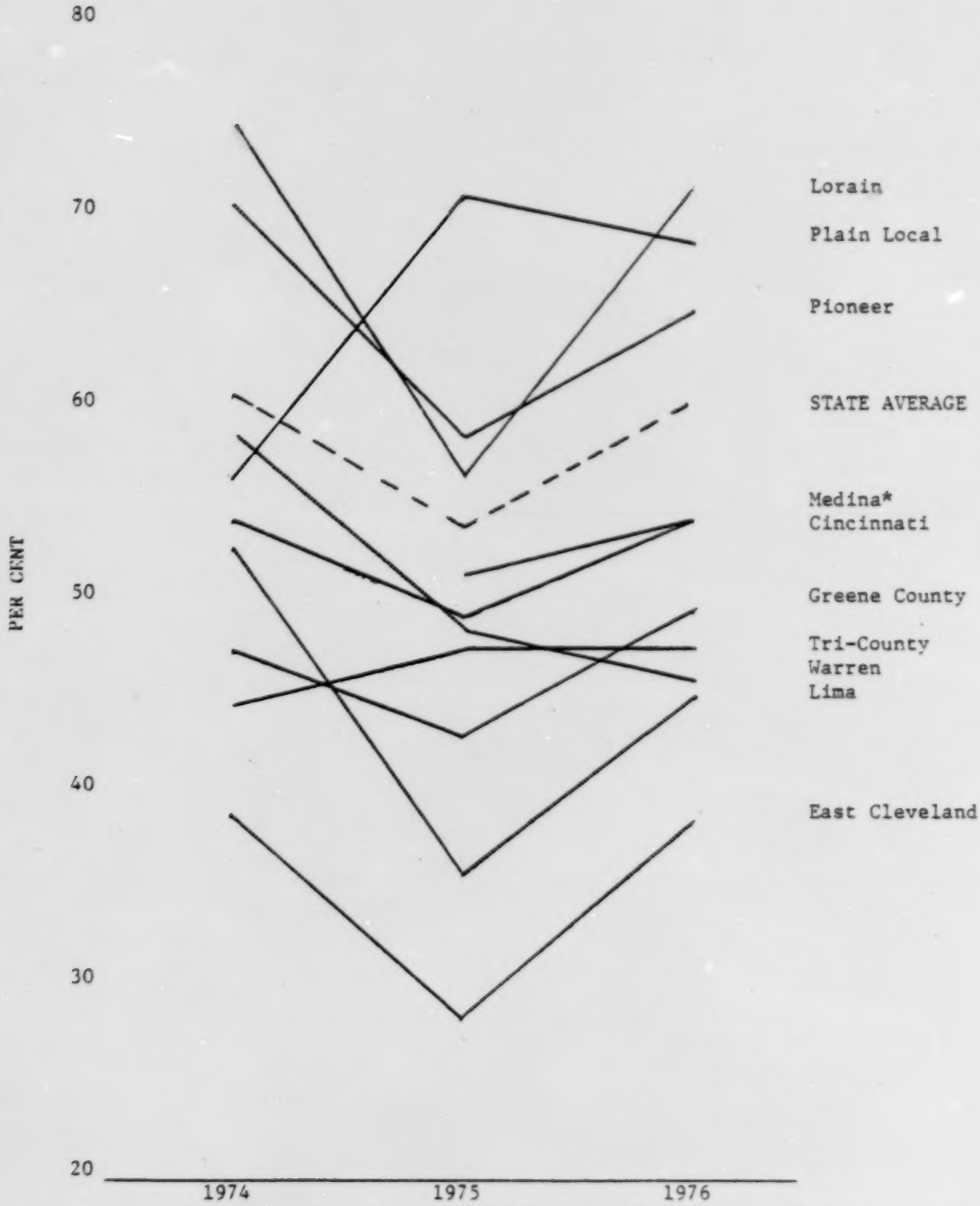
GRADUATES WORKING FULL TIME IN FIELD OF TRAINING
AS A PERCENT OF ALL GRADUATES, 1974-1976



SOURCE: Division of Vocational Education, VE-23 Placement Reports compilations.
*First graduating class in 1975.

FIGURE 3.2

GRADUATES WORKING FULL TIME IN FIELD OF TRAINING, AS A PERCENT OF THOSE GRADUATES AVAILABLE FOR EMPLOYMENT, 1974-1976

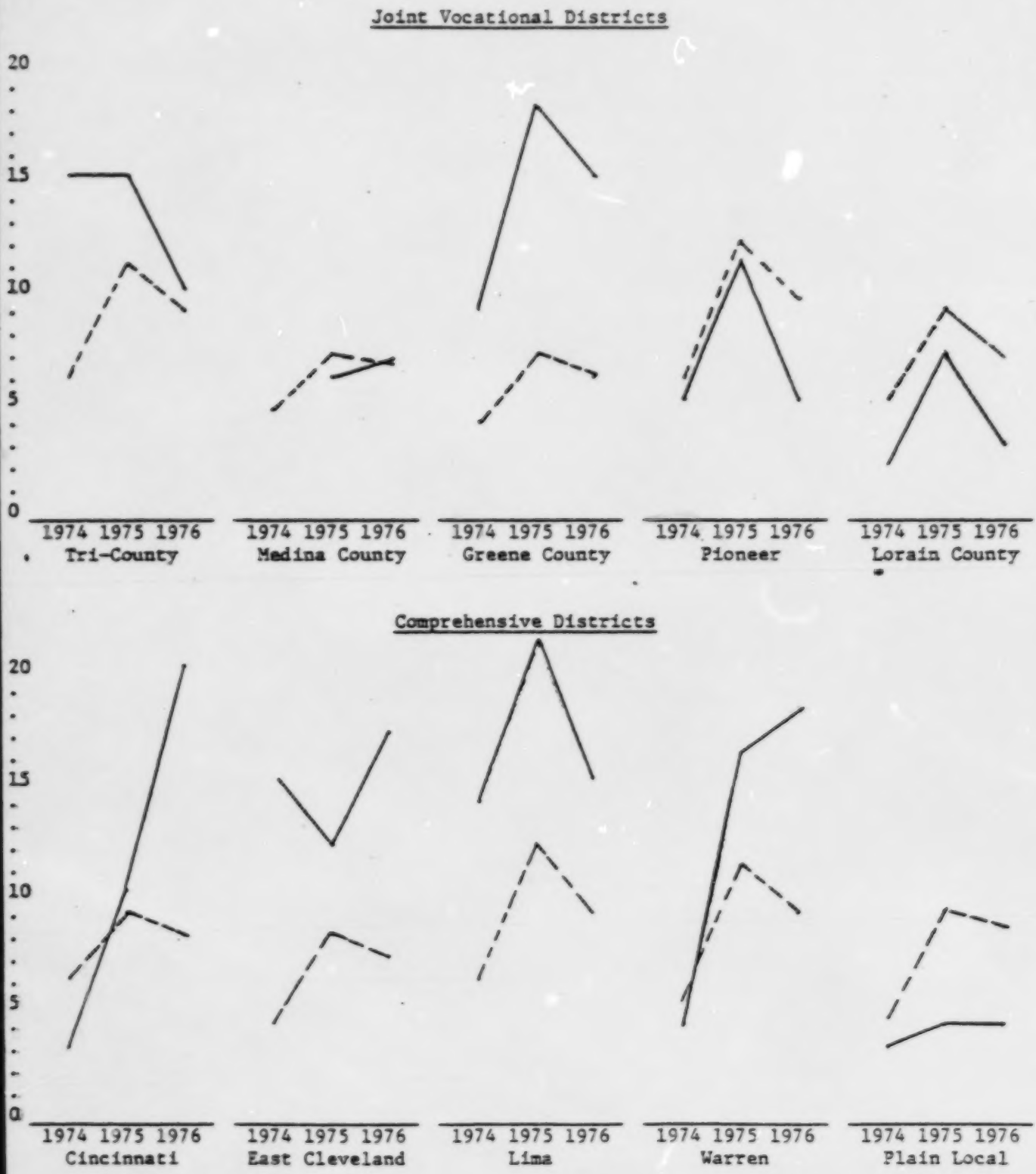


SOURCE: Division of Vocational Education, VE-23 Placement Reports compilations.

*First graduating class in 1975.

FIGURE 3.3

SAMPLE DISTRICT UNEMPLOYMENT RATES 1974-1976

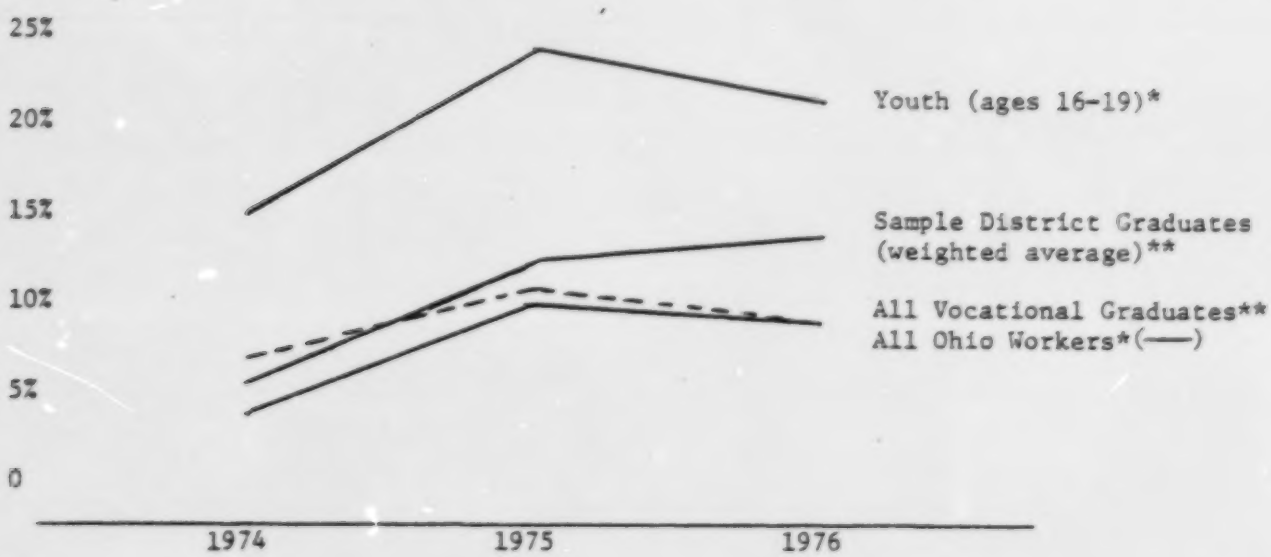


Graduate unemployment ———
General unemployment - - - - -

SOURCE: Ohio Bureau of Employment Services

FIGURE 3.4

OHIO UNEMPLOYMENT RATES, 1974-1976



*SOURCE: Ohio Bureau of Employment Services
**SOURCE: Ohio Division of Vocational Education (VE-23 Reports)

in 1976 (Figure 3.3, p. 23) may reflect the new method of data collection rather than a significant change in the percentage of graduates unemployed.

Other Factors Affecting Overall Placement Results

Vocational Student Body Variables

Placement commitment and general economic conditions have been reviewed as factors affecting overall placement success in the sample districts, but they are not the only placement variables. The characteristics of the vocational student body may vary significantly from district to district, because of the district's socioeconomic composition and entry screening practices, and can affect placement. For example, in one suburban district no teacher indicated that more than 20 percent of his students were "weak" (described as often difficult to place because they lack skill or have a poor attitude), but in some inner-city schools teachers indicated that as many as 65 percent of their students were "weak."

None of the many variables affecting placement is solely responsible for a school district's placement results. Because districts vary in their student composition and economic climate as much as in their placement efforts, what might be considered an unsuccessful placement record compared with state averages may reflect outstanding placement efforts and results for that district.

Graduates' Job Competition

In the staff survey employers were asked with whom vocational graduates compete for jobs in their companies. About two-thirds mentioned general curriculum high school graduates, as expected, but one-third mentioned experienced workers and one-fourth mentioned technical college graduates. Employers also mentioned proprietary school graduates, high school dropouts, and college students. Many employers named two or more categories. Vocational graduates clearly face a variety of competition for entry-level jobs. As shown in this chapter by their relatively low unemployment rates and in Chapter Five by employer evaluations, most vocational graduates compare favorably with a variety of workers in a crowded job market.

CHAPTER FOUR

PLACEMENT RESULTS IN SPECIFIC PROGRAMS

Placement results vary greatly among vocational programs. Programs with poor placement records may have many other sources of competition, may not provide adequate skills for entry-level jobs, or may face licensing or certification problems. Labor market forecasts are only one factor in decisions to approve particular programs for state funding. Neither the forecasts nor other elements of the program approval process take placement results into account. Because of the significance of student demand on program offerings at the local level, a greater career education and guidance effort might yield more satisfied graduates and better placement results. However, placement results should not be considered the only measure of vocational program success.

Although the overall placement results given in Chapter Three are useful, they give only part of the picture. This chapter concerns programs which have placement results well below the overall state and sample district averages, using questionnaire data and materials compiled by the Division of Vocational Education.

Vocational Graduates and Placement Results by Taxonomy

As discussed in Chapter One, the main program groupings or taxonomies of secondary vocational programs are agriculture, distributive education, health, home economics, business and office education, and trade and industrial education. Table 4.1 shows the distribution of 1976 graduates by taxonomy statewide, in the ten sample districts, and among the graduates interviewed.

Table 4.1
PROPORTION OF 1976 GRADUATES IN PROGRAM GROUPINGS

Taxonomy	Statewide	Sample Districts	Graduate Questionnaire
Agriculture	9 %	6 %	5 %
Distributive	13	8.5	7.5
Health	3.5	4	5
Home Economics	6	10	9
Business & Office	26.5	23	30.5
Trade & Industrial	42	48.5	43
Totals	100%	100%	100%
(N)	50,842	4,647	551

SOURCE: Division of Vocational Education, 1976, Follow-up of Program Completions (VE-23).

Table 4.1 illustrates that the programs taken by all sample district graduates and those interviewed for this report are roughly comparable to statewide proportions. Table 4.2 shows the placement results by taxonomy for the state and the sample districts. Except for agriculture programs, placement results in the sample districts were somewhat below the state average. Table 4.2 also shows placement results ranging from about 30 to 46 percent among the six taxonomies, with home economics having the worst results.

Table 4.2
1976 GRADUATE PLACEMENT IN FIELD OF TRAINING* BY PROGRAM GROUPING

Taxonomy	Statewide	Sample Districts	Sample District Results Compared To State
Agriculture	39%	45%	+6%
Distributive	48.5%	46%	-2.5%
Health	49%	39%	-10%
Home Economics	34%	29.5%	-4.5%
Business & Office	46.5%	44.5%	-2%
Trade & Industrial	43%	39.5%	-3.5%

* Includes full-time and part-time employment.

SOURCE: Division of Vocational Education 1976 Follow-up of Program Completions (VE-23)

Staff asked 1976 graduates in the sample districts whether they would take the same vocational program again. Although a majority in every taxonomy said they would take the same program again, the lowest proportion of graduates would take home economics programs, the taxonomy with the worst placement record, as shown in Table 4.3.

Table 4.3
1976 GRADUATE PLACEMENT AND PROGRAM CHOICE

Taxonomy	Sample District In Field Employment	Questionnaire: Same Program Again
Agriculture	45%	63%
Distributive	46%	63%
Health	39%	62%
HOME ECONOMICS	29.5%	56%
Business & Office	44.5%	70%
Trade & Industrial	39.5%	74%

Graduate Program Choice and Placement Results by Program

Among the 170 graduates who said they would not choose the same vocational program, 125 gave reasons for not taking the program again.

Almost two-thirds of the respondents said they would not choose the same program because of a lack of employment opportunities in their field of training. Some of these graduates were doing unrelated work; some were unemployed. Many had returned to school at the post-secondary level or were planning to do so to find jobs in their field of training. In this category of response, certain

programs were mentioned frequently such as child care, drafting, commercial art, and data processing. Table 4.4 (p. 30) illustrates that, in the sample districts, these programs generally have the lowest placement rates in their taxonomies and the highest proportion of graduates taking further education. A similar pattern obtains for these programs statewide.

A small number of graduates (13) said the program they had taken was not their first choice, and they would still prefer the first-choice program. This issue is related to entry into available classroom space in the district and was not associated with a particular program.

A somewhat larger group (31) said they either no longer enjoyed their work or did not find it lucrative enough. A few of these acknowledged that they had chosen their program more as a hobby than as a serious career choice (e.g., auto mechanics). A larger than expected group of auto mechanics also had salary complaints. Otherwise, respondents who gave these essentially personal reasons had been trained in a variety of programs.

Table 4.4
1976 SAMPLE DISTRICT PLACEMENT RESULTS BY PROGRAM

Taxonomy and Programs (no. of districts)	% of Graduates Employed in Field	% of Graduates in Further Education
Agriculture (8)	45%	12%
Horticulture (7)	30%	15%
Health (8)	39%	20%
Medical assistants* (6)	19%	35%
Home economics (10)	29.5%	14%
Child care (7)	14%	21%
Fabric/clothing (4)	22%	18%
Business & Office (10)	44%	15%
Data processing (3)	36%	24%
Trade & Industrial (10)	39.5%	9%
Commercial art (3)	6%	41%
Drafting (8)	25%	21%
Communication electronics (4)	17%	26%
Industrial electronics (5)	16%	34%

*This combines physician assistant, dental assistant, nurses assistant, and other such training programs.

SOURCE: Division of Vocational Education, 1976 Follow-up of Program Completions

Reasons for Poor Placement Results in Problem Programs

Advancement Limitations

Some of the graduates can secure entry-level positions in their field of training, but cannot advance without further training at the post-secondary level. Examples are horticulture, fabric services, and drafting. A few graduates suggested that the school should have told them that would be the case. Since vocational job training is supposed to provide only entry-level skills, telling the students about the need for additional training for advancement seems adequate.

Competitive Sources of Supply

In other programs students are qualified for employment in their fields, but face keen competition from better-educated or more experienced people who are willing to accept entry-level positions. Graduates in child care, for example, compete with displaced homemakers and college graduates in elementary education. So many two-year and four-year college-trained commercial art graduates are underemployed that, according to one vocational graduate, "Commercial art graduates are a dime a dozen." Obviously in such a buyers' market, employers can and do hire the more qualified people. Here again, it may be appropriate for counselors to warn students before they sign up for such programs.

Inadequate Qualifications

Finally, in some programs graduates feel they do not receive enough training to qualify them fully for positions in their fields. High-technology fields undergoing rapid change are frequently mentioned in this category. One example is data processing. Program graduates complained that their lack of experience and need for additional education have prevented them from obtaining in-field jobs, especially in programming. A second area is electronics, which demands a high level of technical skill and knowledge. The frustrations of many students in the program are summarized by an electronics graduate who stated, "Opportunities without further training are nil." Many of these students are in technical college, and some complained that they did not receive credit for material they had learned in high school.

Licensing and Certification

Some occupations require licensing or certification to practice; in others, licensing or certification is not mandatory, but would enhance job prospects. Of the secondary job training programs, cosmetology, practical nursing, and medical lab assisting are most affected by such requirements.

To practice as a cosmetologist, a student must complete 1,500 instructional hours in Ohio and must pass an examination given by the State Board of Cosmetology with a score of at least 75 percent. According to the State Board of Cosmetology, 92 percent of those vocational students at the secondary level in cosmetology who completed their program <u>and</u> took the examination in the 1976-77 school year passed. A barrier to successful completion and licensing is presented by school closings which prevent students from acquiring the needed 1,500 hours. Also, several teachers noted that some students fear the exam and decide not to take it; these students cannot practice in the field.

Four high school programs in practical nursing are approved by the Ohio Board of Nursing Education and Nurse Registration. After completing at least 200 hours of coursework in nursing-related arts and sciences and 400 hours in nursing of patients, graduates must pass an examination administered by the Board. In the 1976-77 school year, only two of 54 graduates of high school programs who took the examination failed. The major problem in practical nursing is low completion. Although the number of students who take the examination upon completion of the program is increasing, overall completion per classroom unit is well below 25 and in some years has fallen below the state-required minimum of 12. The staff was unable to determine any clear-cut reasons for this, although it seems that careful screening reduces the number who are allowed to enroll.

Medical laboratory assisting also presents certification problems. Although not all labs require their lab assistants to be certified, there is a growing trend toward certification partially attributable to certain federal regulations. The certifying agency for lab assistants, the American Society of Clinical Pathologists (ASCP), publishes guidelines for schools which teach lab assisting. One guideline requires the students to be high school graduates or equivalent before the school is approved, which prevents secondary schools from being approved and their graduates from being certified.

A graduate of a horticulture or vocational agriculture program who wishes to be a pesticide operator or applicator must be licensed by the State Department of Agriculture. Although some instructors try to provide training in pesticides, it is difficult for students who have only high school level instruction and experience to become licensed. The application form for each exam requires the applicant to state where s/he will be working; the license is valid only for that firm. Many high school graduates at the time of their graduation do not know where they will be employed. Students in horticulture and other agriculture programs are employable without pesticide licensing. If, however, they want to specialize in that area, they apparently need additional training or experience.

Factors Determining Program Offerings

As the policy-making body for secondary vocational programs in Ohio, the Division of Vocational Education should presumably encourage VEPDs to offer programs which show the most promise for high levels of graduate employment. One would also expect vocational administrators to have a preference for offering such programs. In reality, however, the choice of programs offered depends on many factors other than placement results.

Labor Market Forecasts

Ohio's 1969 effort to expand secondary vocational education was based in part on labor market projections (made in the late 1960's) that Ohio's labor force should include approximately 40-45 percent workers with both high school diplomas and vocational skills. Thus the goal of the state Division of Vocational Education has been to enroll that percentage of high school juniors and seniors in job training programs.

More specifically, the division attempts to match each VEPD's program offerings with employer needs in the labor market area or at least to avoid market saturation through program duplication among VEPDs serving the same labor market. For a VEPD to offer one or more classroom units of a given program, it must demonstrate that there is sufficient employer demand for graduates of the program. A complex system has evolved to project these labor needs.

The U.S. Department of Labor's Bureau of Labor Statistics (BLS) uses its "Industry Occupational Employment Matrix" to estimate employment needs on a state-by-state basis for each occupational category, using the most recent census and current market trends. The Research and Statistics Division of the Ohio Bureau of Employment Services (OBES) then compiles data on employment patterns within the state and forwards this information to the BLS. Updated estimates are returned to Ohio in both a statewide format and by Standard Metropolitan Statistical Areas. The Department of Education disaggregates their data by using the BLS growth patterns and 1970 census numbers to determine in which counties employers of various job titles are concentrated. In counties with more than one VEPD, education department analysts calculate the ratio of individual school enrollments to the total subscription for the state. This ratio is then applied to county employment figures to estimate the employment needs of the individual districts. In sparsely populated areas, specific agricultural census data are added to the mix.

This scheme has some problems. The BLS Dictionary of Occupational Titles, used for job categories, does not neatly match the taxonomy codes used by vocational educators. Also, many programs qualify graduates for more than one job. On the state level, when BLS figures are disaggregated, it is assumed that all counties mirror a given industry's statewide growth rate, which is not true. The upshot is that the projections have some builtin inaccuracies.

Most teachers and administrators in the sample districts felt the state's labor market forecasts played little or no role in placement, although the staff did not ask whether the forecasts were much used in choosing what programs to offer. Some instructors seemed unfamiliar with the forecasts. Commercial art, child care and auto mechanics teachers in the sample districts most often thought opportunities in their programs were overstated.

While the Division uses the best available projections to match program curriculum to labor forecasts, other factors enter into both state and VEPD program decisions and are ultimately reflected in placement results.

Vocational Program Approval

Because of legislative emphasis on job training, the Division recently has disapproved a large proportion of part-time vocational programs, many of which are offered to ninth and tenth graders. Top priority is reserved for new and second-year ("expansion") full-time job training units in new buildings, transfer of units within districts from discontinued to new job training programs, and new Occupational Work Experience (OWE) units for dropout-prone students, in that order. While the Division can disapprove duplicating program offerings by contiguous districts and has done so on occasion, staff could find no evidence that placement results were considered as inputs to the approval process or that competitive sources of labor supply were fully accounted for.

For the 1977-78 school year, program adds and drops statewide are shown below (Table 4.5).

Table 4.5
SUMMARY OF 1977-78 VOCATIONAL UNIT APPROVALS

Taxonomy	Adds Requested (%)	Not Approved	Drops	Net (%)
Agriculture	42 (8)	--	6	36 (9)
Distributive	24 (5)	--	--	24 (6)
Health	32 (6)	--	6	26 (6)
Home Economics	53 (11)	3	8	42 (10)
Business & Office	75 (15)	1	26	48 (12)
Trade & Industrial	270 (55)	4	29	237 (57)
TOTALS	496 (100)	8	75	413 (100)

The eight job training units which did not receive approval (less than 2 percent) were two food service units and one unit each of comprehensive homemaking, steno-secretarial, graphics, drafting, mobile home service, and masonry. In the programs cited earlier in the chapter as having placement problems statewide, the record was as follows (Table 4.6).

Table 4.6
UNIT APPROVALS IN LOW PLACEMENT PROGRAMS

Program	Units Requested	Units Disapproved	Units Dropped	Net
Horticulture	18	--	1	17
Medical Assistants	5	--	1	4
Child care	9	--	--	9
Fabric service	4	--	1	3
Data processing	5	--	--	5
Commercial art	2	--	--	2
Drafting	14	1	1	12
Communication electronics	9	--	--	9
Totals	66	1	4	61

A Division spokesman stated that the Division's interest in this process centers on the net gain of units from year to year, that information is not maintained on a program basis, and that the request forms from the VEPDs are discarded once the net expansion data is calculated. Also, in the survey of VEPD superintendents (Chapter Six), state program disapproval was the least frequently mentioned obstacle to changing their districts' program offerings.

Coordination with Other Training Sources

Despite the memorandum of agreement between the Board of Regents and the Division of Vocational Education, staff found graduates in several secondary programs who required training at the technical college level to qualify them or enable them to compete for entry-level jobs. Some graduates, instructors and administrators also indicated that technical colleges do not give credit or advance placement to vocational graduates, even when part of the college curriculum duplicates high school studies.

In some fields such as cosmetology, training is also available at proprietary schools licensed by the Board of School and College Registration. Staff found no evidence of cooperation between the Division and the Board to avoid an oversupply of trained graduates in such programs.

PRIDE

The mandatory five-year program review discussed in Chapter One is primarily concerned with input variables such as enrollments and administrative costs. Staff could find no evidence that placement efforts and results are strongly emphasized or that the Division encourages VEPDs to use placement data in policy decisions about program offerings.

Student Demand and Guidance

At the local level, program offerings (and ultimately placement results) are affected by student demand. For example, 20 superintendents chose lack of student interest as one of the two main obstacles to program changes in their districts (see Table 6.8, p.54), and as we have seen, the state requires minimum student enrollments before a program can be offered. On the other hand, in the absence of sufficient information about employment opportunities, many students choose programs with poor placement records or which require additional training. Many sample district graduates and current students interviewed by the staff expressed a desire for more information about their own aptitudes and career or education options, before choosing vocational job training or a specific program. Among the sample districts, only Warren City has had an ongoing career education program in the elementary grades for several years. Interestingly, Warren graduates were among the highest in terms of satisfaction with the vocational program they chose (Table 4.7).

Table 4.7
SAMPLE DISTRICT GRADUATE PROGRAM CHOICE

District	% Same Program Again	(N)
Greene JVS	76%	(38)
Lorain JVS	66	(31)
Medina JVS	58	(26)
Pioneer JVS	67	(28)
Tri County JVS	68	(28)
Cincinnati	66	(105)
East Cleveland	60	(28)
Lima	62	(29)
Plain Local	84	(36)
Warren	80	(35)
Average (N)	68%	(384)

Without such preparation students must rely more heavily on school guidance counselors for assistance in choosing vocational education or another education/career path. Some vocational school students and graduates said they had received inadequate information from counselors before entering job

training. Apparently many guidance counselors are best equipped to help college preparatory students. Some joint vocational students also said that high school counselors and teachers discouraged students from attending the JVS.

Perhaps more in-service training would enable guidance counselors to help students in choosing a career path appropriate to their needs, especially where elementary and junior high career education is not available.

A related issue is sex stereotyping in program choices. Students are seldom counselled to enroll in courses dominated by the opposite sex and in some instances are discouraged from doing so. Yet many instructors remarked on the great demand for trained women in male-dominated occupations, and some large employers interviewed would like to hire more women to meet federal equal employment opportunity guidelines.

Neither the Ohio Department of Education nor the sample schools have policies encouraging students to cross the barriers and enter fields dominated by the opposite sex. While the schools generally permit enrollment without respect to gender and some students have graduated from programs long filled by people of the opposite gender, little is done to promote such integration. As a result of 1976 federal legislation, the Department is exploring the extent of the state's compliance with the federal act and developing a plan for alleviating these problems.

Screening of Students

The Division of Vocational Education has no formal admissions policy for secondary job training except setting 16 as the minimum age to comply with federal regulations. Thus, districts may set their own entry requirements (except in Occupational Work Experience programs for which the state requires that a student be dropout prone or an underachiever). As a result, screening techniques in the sample districts vary widely.

Most of the sample districts use counseling, recommendations, and academic standards to assure placement into appropriate programs, but few students who desire vocational training are excluded. Some districts have no screening process at all. Many administrators feel that weeding out "undesirable" students cuts against the "jobs for all" goal of vocational education. Moreover, Cincinnati's screening process was recently challenged in court because it allegedly denied some students an equal opportunity to select courses. The suit was settled when the Board agreed to end screening and give all students the right to choose their courses.

Lima exemplifies the impact of rigid screening. According to administrators, until two years ago, Lima's vocational classes were filled with disciplinary problem students, slow learners, and other cast-offs from the school's academic wing. Then a complex admissions process was implemented which includes teacher and counselor recommendations, attendance, and a student essay. Lima's placement record has been uneven, but teachers uniformly report that their current classes have more highly motivated, easier-to-place students. (Because Lima has yet to graduate its first class under the new selection process, actual placement data are not available.) Vocational enrollments at Lima Senior High now approach 60 percent of the junior class. A guidance counselor there

contended that screening means that a substantial number of students (20-25 percent) are left out of both vocational and college preparatory programs. Job prospects are especially bleak for those graduates, he added. Generally, they have neither technical skills nor high academic aptitudes.

Program Changeover Costs

Even when vocational administrators are aware of program problems such as low enrollments or poor placement results, it is difficult to change to a new program offering for financial reasons. The two obstacles to program change most frequently cited by superintendents (Table 6.8, p.54) were lack of equipment (42 mentions) and lack of physical plant (39 mentions). Although the Division maintains an information center for equipment trades among districts, no other incentive is available to districts to make these costly changes. As will be seen in Chapter Six, equipment replacement is widely perceived as a major funding need by VEPD superintendents.

An indirect cost of program changeovers is finding a suitable instructor (not to mention figuring out what to do about the instructor of the program to be dropped). Superintendents mentioned lack of instructors 22 times as an obstacle to program changes.

Finally, as will be seen in Chapter Six, the current state unit subsidy for vocational programs is biased in favor of programs with low equipment costs and capital needs. As shown in Table 4.5 (p. 34), programs are changed despite these costs. But although the state applies a sanction for low enrollment, it has none for poor placement results.

Thus, many factors besides placement results affect whether a VEPD will offer a given program.

Placement as a Measure of Success

Ideally, secondary vocational education provides students with the skills necessary to obtain employment upon graduation without recourse to further education. Therefore, job placement is a valid measure of the success of vocational education. However, despite the emphasis given placement in this report, it is not the exclusive barometer. Teachers and administrators concur that vocational education encourages many students to complete high school. A few students in each sample district commented, "I would have dropped out if it were not for vocational courses." Clearly, vocational education is providing many dropout-prone young people with the benefits of education and a diploma they would not have obtained otherwise. Similarly, vocational training encourages many pupils to continue their education on a post-secondary level. Graduates who enter the military may also use the skills they acquired in vocational programs. Many educators in the sample districts consider vocational graduates in college or related military training to be successful products of voc-ed. These teachers and administrators feel that federal and state emphasis on in-field placement understates the productivity of other activities.

CHAPTER FIVE

GRADUATE PREPAREDNESS AND EMPLOYER AND GRADUATE SATISFACTION

According to employer and graduate interviews, vocational education provides students with good technical skills, work habits and attitudes, and social skills. Graduates attach less importance to their academic skills than employers do; many employers indicate that all high school students need to improve their basic academic skills. More than 90 percent of both employers and graduates state that vocational graduates are very well or somewhat prepared for working in general. More than 90 percent of the graduates state that, if they had it to do over, they would enroll in vocational education again. Their level of job satisfaction is also high.

This chapter uses questionnaire survey data to compare employers' and graduates' assessments of the graduates' preparedness for work.* (Questionnaires may be found in Appendix Three.) The criteria used are technical skills; "employability" skills such as work habits, attitudes, and job interviewing techniques; basic academic skills; social skills; and overall preparedness.

Another series of questions attempted to measure employers' overall satisfaction with vocational graduates and the graduates' satisfaction with their training. In answering these questions, some employers also gave suggestions for the improvement of vocational training and curriculum. Although the research staff asked employers to compare vocational graduates to other high school graduates they hired if possible, in most cases comparisons were drawn with all entry-level employees, who come from a wide range of backgrounds. Obviously, the employers' responses to most questions are applicable only to vocational graduates who have found jobs.

Graduate Preparedness

Technical Skills

Providing students with technical skills is a primary function of secondary vocational education. Because each of the many vocational programs teaches different skills, a general survey cannot deal with each set of job skills in detail.** The questionnaires therefore give only a superficial indication of graduates' technical skills.

---

* Problems with the employer sample are discussed on p. 45.

** A number of employers offered specific suggestions for skills training in their fields. These will be given to the Division of Vocational Education and the sample school in the employer's area.

Two-thirds of the employers responded affirmatively when asked whether vocational graduates "have sufficient experience in a laboratory or actual work setting prior to graduation."

Yes	66%
No	28
Depends on job	6
	100% (N=139)

Many employers added that vocational graduates have the basics, but there is no substitute for actual work experience. These employers found the graduates needed further training on the job to fulfill their companies' needs. Some commented that graduates expected high wages, journeyman status, or glamorous jobs immediately. "The school should make it clearer that the student still has a lot to learn when leaving school."

When asked if vocational graduates had been trained on up-to-date equipment while in school, a large majority of employers indicated that they had been.

Yes	87%
No	9
Depends on job	4
	100% (N=132)

Employers in some program areas commented that the schools' equipment was newer or more sophisticated than their own. Replacement needs for worn-out and obsolete equipment as perceived by VEPD superintendents are discussed in Chapter Six.

The staff also asked employers whether they hire vocational graduates for some positions which regular high school graduates could not fill without further training. Almost three-fifths stated that they do.

Yes	58%
No	42
	100% (N=158)

Thus, a majority of the employers surveyed apparently find vocational graduates more technically skilled than general high school graduates.

Almost 90 percent of the graduates themselves (excluding those who had never worked) said yes when asked whether their schools had given them up-to-date and accurate technical skills.

Yes	89%
No	11
	100% (N=480)

The graduates also were asked to select from a prepared list which aspect of their high school training "did the most to prepare you to get and keep a good job." The largest number of students chose lab or shop work as most important; co-op work experience received the third largest number of votes. These two aspects of the students' education are those that provide technical skills.

Table 5.1
MOST IMPORTANT ASPECT OF VOCATIONAL TRAINING

Categories	Number of Graduates
lab or shop work	185
learning to work with others	104
co-op work experience	59
other	26
learning to take instructions	24
theory courses	21
academic courses	18
TOTAL	437

Employability Skills

Voced graduates did extremely well when rated by employers on their work attitudes (Table 5.2). The staff asked employers to compare vocational graduates' work attitudes to those of other entry-level employees.

Table 5.2
EMPLOYERS RATE GRADUATES' WORK ATTITUDES

	Better	Same	Worse	Total (N)
Pride of craftsmanship	66%	30 %	4%	100% (132)
Willingness to learn new things	58	39	3	100% (137)
Initiative	56	40	4	100% (135)
Responsibility	54	43	3	100% (136)
Responsiveness to instructions or criticism from supervisors	45	46	9	100% (128)

Vocational students were generally given high marks for initiative, for example, because "they have already tried to do something on their own." On "responsiveness to criticism," where vocational graduates scored lowest, several employers commented that some vocational graduates take criticism poorly because "they think they know everything already."

Although vocational graduates did not fare quite as well on work habits as they did on work attitudes, few employers considered them worse in these areas than other entry-level employees.

Table 5.3
EMPLOYERS RATE GRADUATES' WORK HABITS

	Better	Same	Worse	Total (N)
Following safety rules	38%	59%	3%	100% (116)
Using time efficiently	40	54	6	100% (134)
Dependability	49	46	5	100% (127)

Many employers felt that the efficiency of vocational graduates or their need for supervision did not differ from those of other employees. However, some indicated a need for improvement. One employer said that "using time efficiently is a problem with all young employees." Others felt the problem was particularly acute with vocational graduates because there is no pressure on them to produce at school. They do not understand deadlines (e.g., in data processing) or piecework rates (e.g., in auto repairs). One employer said, "Students all play too much. Classes are too long; they get restless and mess around more. Half day lab is too long--kids learn to loaf. They do not learn to do things quickly."

Almost half of the employers rated vocational graduates higher on dependability which was defined as promptness and low absenteeism. However, a number of employers complained about high absenteeism or suggested that schools stress the importance of attendance and reliability. As one employer stated, "If an employee knows he is supposed to come to work every day, he is supposed to be on time, he is supposed to follow instructions--he'll be okay and I'll be okay." This employer generally gives vocational graduates good recommendations. Another employer said, "Teachers should exert more control over students, so they are more dependable and will not quit or job hop. This would knock out bad feelings that a lot of employers have" about voced graduates. Another employer commented, "I do not think any school prepares them well enough with respect to responsibility to their employer."

Many employers suggested that the schools train students how to fill out job applications accurately and neatly and how to prepare for interviews, including how to dress and act. "A nonchalant attitude bothers me. If they want a job, they should act like they want a job. They should not slouch, look around without paying attention to the interviewer, or hem and haw when asked a direct question." Similar comments came up surprisingly often (at least 15 times), given that the staff did not ask about it specifically and that all the sample schools claim to teach this to their students. Employers also mentioned the importance of the "work ethic" and "a good attitude." One labelled vocational graduates "okay in technical skills, but not so good in job holding skills."

Basic Academic Skills

Employers were asked to compare vocational graduates' skills to those of other high school graduates they hired (or other job applicants) in reading, math, and oral and written communication. For those who responded (many were unsure or said the skills did not apply to the job in question), only 25 percent or fewer, depending on the skill in question, indicated that vocational graduates were worse than their competitors.

Table 5.4
EMPLOYERS RATE GRADUATES' ACADEMIC SKILLS

	Better	Same	Worse	Total (N)
Reading	30%	45%	25%	100% (77)
Math	37	43	20	100% (101)
Oral and written communication	29	53	18	100% (110)

Most employers judged vocational graduates' academic skills roughly equivalent to those of other entry-level employees. Many employers, however, commented that all high school graduates have inadequate basic skills. For example, employers mentioned that graduates do not know fractions, percentages or the number of ounces in a pound; that they do not understand degrees; that they cannot make change. One large employer stated flatly. "Both general and shop math should be mandatory."

Several employers mentioned that graduates cannot spell; others, that their reading is poor. Some claimed that general or college preparatory curriculum high school graduates have better skills. "In the office area (bookkeeping, typing) we won't hire vocational kids where we can get general high school college prep students, because voc-ed kids lack math and communication skills."

It is interesting in view of the employer comments that only a few vocational school graduates ranked academic courses as the most important aspect of their education in preparing them for employment. (See Table 5.1, p.40). However, some graduates who would not choose vocational education or the same program again stated that more academic courses would have prepared them better for their career choice.

Social Skills

Graduates apparently consider social skills important for working. The skill "learning to work with others" was cited by the second highest number of graduates as the most valuable aspect of their high school training. (See Table 5.1, p.40).

A large majority of vocational graduates believed that their schools had done a good job of preparing them to get along with supervisors, coworkers, and customers.

Table 5.5
GRADUATES RECEIVED GOOD SOCIAL SKILLS TRAINING

	Yes	No	Don't Know	Total (N)
Supervisor	78%	16%	6%	100% (497)
Coworkers	84	12	4	100% (491)
Customers	71	18	11	100% (460)

Graduates felt least certain of their ability to deal with customers, possibly because they have less opportunity to practice this skill in school or because it is not required for some jobs.

This matches employers' responses to related questions comparing voced graduates to other employees in their ability to get along with others.

Table 5.6
EMPLOYERS RATE GRADUATES' SOCIAL SKILLS TRAINING

	Better	Same	Worse	Total (N)
Supervisor	44%	52%	4%	100% (136)
Coworkers	41%	57%	2	100% (131)
Customers	34	60	66	100% (83)

The few negative employer comments on social skills were that graduates "need better training in the courtesies of employer/employee relations," "are not well versed in handling people," "don't learn how to handle difficult customers," or "are not trained in customer relations." Where employees have direct contact with the public, graduates should also learn "neatness" or "grooming" and "friendliness."

Overall Preparedness

Employers rated graduates lower than graduates rated themselves on overall preparedness for work, but only a very small percentage of either group thought the graduates were poorly prepared (Table 5.7). Graduates were asked, "In general, how well do you feel your school prepared you for working?" Employers were asked, "In general, how well prepared for their jobs are vocational graduates?"

Table 5.7
RATING GRADUATES' OVERALL PREPAREDNESS FOR WORK

	Graduates	Employers
Very well prepared	55%	39%
Somewhat prepared	38	55
Poorly prepared	7	6
Total (N)	100% (532)	100% (150)

Employers who evaluated vocational students' preparedness positively made comments such as "they're ready to find a job when they graduate" and "there's an all-around difference because of their experience in school." Those who gave a negative evaluation said graduates were "not prepared for the business world" or "not ready to do major work." Many of the latter employers focused on the graduates' relative youth and inexperience (over which they have no control) rather than on any specific shortcomings in their training.

Two employers articulated very well an emphasis implied by many others: the importance of good work habits and adaptability plus very basic technical skills. One mentioned "the necessity of providing general education using vocational skills as a motivating factor rather than as ends in themselves." He proposed using vocational education as "a way of learning," adding that it is "useless to make students learn skills needed for a specific job. Better to teach them to adapt, to learn skills as they need them. . .. The objective of education should be the same for all people; only the approach should be different."

The other employer put it this way:

> Attitude, aptitude, adjusting to factory life are more important than education for production jobs--our company trains for the necessary skills. Still, we like to see that they've had the training and haven't been floundering. They're better motivated and more aware of what they want than general high school graduates.

Employer Satisfaction

When asked if they would hire other vocational graduates, 98 percent of the employers interviewed answered yes (N=159). Seventy-six percent said that they preferred to hire vocational graduates rather than general high school graduates.

Table 5.8
EMPLOYERS' HIRING PREFERENCE

Prefer vocational	76%
Prefer general	2.5
No preference	17
Depends on job	4.5
TOTAL (N)	100% (160)

Promotion of employees after hiring is another indicator of employers' satisfaction with their workers. However, some companies give raises and promotions by seniority rather than on merit, and some businesses are so small that there is little room for advancement. Nevertheless, 45 percent of the employers who responded (N=121) stated that vocational graduates were promoted faster than other entry-level employees in their companies and almost all the rest said vocational graduates' promotion records were the same as those of other workers.

Many of the employers surveyed supported vocational training as a needed alternative to college, for its ability to "save a lot of kids" by keeping them in school, and for providing early work experience and the opportunity to learn a trade. Others pointed out that vocational graduates were better motivated than other high school students because they have a goal. "Given their age, they have a basic knowledge of where they are going."

Some employers mentioned both strengths and limitations of students completing vocational programs.

> In general, they're good and competent, but don't have the initiative or interest in why they're doing what they're doing. Competent and friendly, but not intellectually curious.

Suggestions for Training and Curriculum

Despite overall support of vocational education by employers who have had direct contact with its product, some employers surveyed suggested improvements to meet more fully their needs and the needs of their future employees.

Many employers favor cooperative education or "co-op" programs in which students work part-time for vocational credit and go to school part-time for "theory" (vocation-related classroom) courses and state-required academic courses. Several employers mentioned that such practical experience is most valuable and should be offered in more programs. "Co-op makes work and learning so much more meaningful."

Other employers think more qualified instructors are needed who have better teaching ability and are in touch with industry needs. Some difficulties schools have in hiring such instructors were mentioned in Chapter One. Some employers suggested screening the students to determine whether they "just want to get a credit or want a real vocation," improving counseling, or updating equipment. A few had ideas for new programs (general maintenance, medical transcription) and were frustrated by their inability to get a hearing for their ideas.

A few employers suggested adding business economics to the required curriculum. Students "lack understanding that wages include benefits mandated by law and that if you can make a profit for your employer, you'll keep your job longer. Also, knowledge of organized labor and what it can and can't do for you." Students should be taught "some concept of productivity and costs"; "the need to make a profit is not understood." Students could also benefit from a course in personal finance.

A few large employers with equal employment opportunity problems urged schools to assign students to non-sex-stereotyped programs. As mentioned earlier in this chapter, many employers thought that students needed additional training in job interviewing and application procedures.

Note on the Employer Survey

The 166 employers interviewed are not a representative sample of all employers of vocational graduates in Ohio for several reasons. Many employers, especially in large companies, were unable to discriminate among the educational backgrounds of their employees. This excluded many very large employers from the sample. In the case of small employers, responses were frequently based on only one or two vocational graduate employees so individual traits may have been judged more than training.

The schools, in many cases, were the source of employer names in their communities. Many of the employers interviewed are advisory council members or provide training stations for co-op students. As such, they have higher than average contacts with the schools. It seems reasonable to assume that such employers would also have more positive opinions of vocational graduates. Because of these biases, no effort was made to break down the employer survey results by districts.

As discussed in Chapter Three, voc-ed graduates compete with a very broad spectrum of job seekers. In most cases, employers made comparisons between vocational graduates and all entry-level employees rather than with general high school graduates. In city and suburban (comprehensive) districts, as opposed to JVSDs, several vocational programs may serve one labor market area, and the concentration of employers and job seekers is greater. Generally, employers in such districts could not discriminate among different schools' graduates. Rural area and small-town employers had no difficulty identifying graduates from the one joint vocational school in the community.

Graduate Satisfaction

Overall Satisfaction

Over 90 percent of the vocational graduates in the survey answered that, if they had it to do over, they would enroll in vocational education (N=513).* Many graduates commented "voc-ed was the best thing that ever happened to me" or that regular high school bored them and they had had low grades until they enrolled in a vocational program. Others praised their teachers, pointing out that the school provided what was needed to learn if the student was willing to apply himself and not "just mess around." The few graduates (7 percent) who would not choose vocational education again usually said that they were ill suited for it or they were now enrolled in higher education for which college prep would have been a more appropriate curriculum. Some had had "bad" teachers.

Job Satisfaction and Advancement

Graduates' enjoyment of their jobs and evaluation of advancement opportunities may be used to indicate their satisfaction with their vocational training. Of those graduates who have held a job any time since graduation, a large majority enjoyed or are enjoying their work.

---

*The percentage of graduates who said they would choose vocational education again or the same program again may be misleadingly high, because people are reluctant to admit to interviewers that they made a wrong decision.

Table 5.9
GRADUATE JOB RELATEDNESS AND SATISFACTION

	Working in Job Related to Training	Working in Job Not Related to Training
Enjoy	88%	72%
Do not enjoy	12	28
TOTAL (N)	100% (259)	100% (171)

A higher percentage of students employed in related jobs enjoy their work.

Almost 90 percent of the graduates who had worked thought that opportunities for advancement were good in the field in which they were trained, even though only slightly more than half of them had ever held a job in their field.

Table 5.10
OPPORTUNITY GOOD IN FIELD OF TRAINING

Yes	89%
No	11
TOTAL (N)	100% (451)

The data show no clear relation between the graduates' job relatedness and opinions about advancement opportunities in the field in which they were trained.

Of those graduates who had held more than one job since graduation, fewer than half thought opportunities for advancement were good with their first employer. However, over 70 percent oall graduates currently employed felt that the opportunity for advancement was good with their current employers (Table 5.11).

Table 5.11
GRADUATE PERCEPTIONS OF ADVANCEMENT OPPORTUNITIES

	First Employer	Current Employer
Good	48%	71%
Bad	52	29
TOTAL (N)	100% (429)	100% (365)

This suggests that graduates who have held more than one job have moved into jobs when they perceive greater opportunity since leaving school, and that those who have had only one job may have stayed because they considered advancement opportunities good.

CHAPTER SIX

VOCATIONAL FUNDING

The cost of all levels of vocational education (secondary, post-secondary, and adult) in Ohio in FY 1978 is approximately $325 million: $29 million in federal funds, $160 million in local funds, and $136 million in state funds. State funds are distributed on a classroom unit basis which causes some difficulties for VEPDs in terms of enrollment requirements, materials and supplies, and equipment replacement. The nature and extent of financial problems vary between JVSDs and comprehensive districts. Superintendents suggested several ways in which the unit formula could be improved. As the equal yield formula approaches full funding, comprehensive districts may have less financial incentive to enroll many students in vocational units.

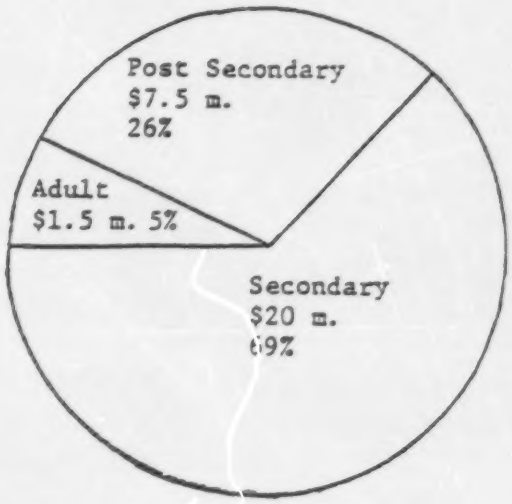
This chapter describes the distribution of vocational education dollars in Ohio from the federal government, local property taxes, and the state's General Revenue Fund and reports the results of a mail survey of all VEPD superintendents about vocational funding needs. The questionnaire may be found in Appendix Three.

Funding Distribution and Formulas

Federal Fund Distribution

In FY 1978, Ohio will receive approximately $29 million in federal funds for vocational education. The distribution formula factor most important in determining Ohio's share is population; thus, Ohio receives about 5 percent of the available federal funds. The funds are divided among adult, post-secondary, and secondary job training at the Ohio Department of Education's discretion. As Figure 6.1 indicates, 69 percent of the federal funds for 1978 go to secondary job training.

Figure 6.1
ALLOCATION OF OHIO'S FEDERAL VOCATIONAL EDUCATION FUNDS, FY 1978



TOTAL: $29 million

The federal support for secondary vocational education reimburses local districts for specific amounts paid to administrative, supervisory, or support personnel and for a proportion of equipment or travel costs. For example, a district might receive $7,500 toward its vocational director's salary, $4,500 toward a guidance counselor's salary, or 50 to 60 percent of the cost of a piece of equipment. The exact amount the district can receive depends on its priority ranking; the state's districts are divided into three categories, each representing a different level of need. (See Appendix 4.1 for the reimbursement schedule and Appendix 4.2 for a detailed explanation of the ranking system.)

Local Funding

In the most recent annual vocational plan submitted to the federal government, the Department of Education estimates local funding for FY 1978 will be $160 million or 49 percent of the total expenditures. (See Appendix 4.3). Estimates are given because precise figures for local funding of vocational education are not known. Much of the money comes from the general revenue fund of comprehensive districts and thus is difficult to separate from local expenditures for academic or general education. Local funds pay a higher proportion of post-secondary and adult vocational program costs (64 percent) than of secondary job training costs (46 percent).

Only the JVSDs have taxation solely for the support of vocational programs. Because JVSD programs cover only the eleventh and twelfth grades (unlike those in comprehensive districts) and because the taxes are levied over a large area comprising all the participating home school districts, millage rates are much lower than those for comprehensive districts. JVSD levies have also had a higher rate of passage than other school levies. Table 6.1 contains the 1975 millage rates for the sample JVSDs, which cluster near the state average except for Medina's levy of 4.35 mills, the second highest in the state.

Table 6.1
MILLAGE RATES FOR SAMPLE JVSDs

District	Current Expense	Debt Rate	Total
Medina County	4.35	—	4.35
Pioneer	2.50	.50	3.00
Lorain County	2.00	—	2.00
Tri-County	1.60	.30	1.90
Eastland ("model")	1.40	.40	1.80
Greene	1.20	.20	1.40
STATE AVERAGE			2.42
RANGE (ALL DISTRICTS)			1.00-5.30

Levies for the jointures are separate from the local levies of the participating home districts and support only students attending the joint vocational school. Since the JVS serves only about 6 percent of the school age population in an area, the average millage of 2.4 is roughly equivalent to a levy of 40 mills for a comprehensive district.

State Fund Distribution

In FY 1978, $136 million in general revenue funds were appropriated for secondary vocational education. (See Appendix 4.4 for a list and explanation of these subsidies.) The state distributes these funds on a "unit" or classroom basis. If the State Board of Education approves a program offering and the required number of students enroll, then the state provides funds for that instructional unit. The subsidy includes three components: the state minimum salary for the instructor, plus 15 percent for benefits, and $4,000 for equipment, supplies and materials.[1] The $4,000 is commonly referred to as the "override." The precise total amount for each unit varies with the teacher's education and experience, averaging $15,100 in JVSDs, $16,100 in comprehensive districts, and $15,800 statewide in FY 1977. If the VEPD pays an instructor a higher salary than the state minimum, as is often the case with vocational instructors, the added expense must be paid from local funds.

While the formula is somewhat flexible with respect to teacher's salary and benefits, the override is a statutory constant and does not fluctuate with the cost of offering different vocational programs, which varies substantially. The Division publishes program cost data as part of the PRIDE process. Table 6.2 shows cost averages for full-time programs, by taxonomy, in the districts reporting in 1976. Except for distributive education, program cost averages are higher in the JVSDs.

Table 6.2
1976 FULL-TIME UNIT COSTS BY TAXONOMY AND DISTRICT TYPE

Taxonomy	JVSD*	Comprehensive**	
		City	Local
Agriculture	$33,010	$29,400	$21,860
Distributive	$23,370	$28,780	--
Health	$27,720	$22,550	--
Home Economics	$29,970	$25,290	$22,450
Business & Office	$28,310	$20,990	$21,420
Trade & Industrial	$28,950	$26,150	$22,520
AVERAGE	$29,120	$25,520	$22,300

*5 JVSDs (including Greene and Tri-County)
**19 city districts (including Lima); 31 local districts

SOURCE: Ohio Department of Education, Secondary Vocational Education Instructional Program Costs 1975-76.

---

[1] Sections 3317.024 (M) and 3317.16 ORC. Alternatively, section 3317.024 (M) permits districts under the foundation formula (i.e., non-JVSD) to receive 105 percent of the basic state aid per pupil for each vocational student, rather than unit funding, if that is the greater amount.

In addition, since vocational students must also complete required academic courses, sending districts receive 25 percent of the basic aid per pupil for each full-time vocational student. This gives JVSD's home districts and "sending" contract districts up to $3,000 more per unit, depending on their position in the equal yield formula. In all but two JVSDs, however, vocational students take academic courses at the joint vocational school rather than at their home school. (This issue is discussed on p.56).

The amounts discussed above apply to full-time vocational units and students; a program with 22.5 classroom hours per week (three hours of "lab" and two periods of "related" instruction each day) is considered full-time. However, many units are not full-time. Table 6.3 shows all secondary units for which the Division provides funding including ninth and tenth grade consumer education, family life education, and agriculture classes which meet for seven and onehalf hours a week or less. These part-time programs which enroll many students are funded proportionally as fractions of units.

Table 6.3
FULL-TIME AND PART-TIME SECONDARY VOCATIONAL STUDENTS AND UNITS

Class Hours/Week	Unit Reimbursement Factor	Students (%)	Units* (%)
22.50	1.00	84,200 (34)	4,400 (55)
18.75	.83	16,500 (7)	740 (9)
15.00	.67	29,800 (12)	1,100 (14)
7.50	.33	13,400 (5)	300 (3)
5.00	.25	101,700 (41)	1,400 (18)
3.75	.17	3,100 (1)	20 (41)
Totals		248,700 (100%)	7,960 (100%)

* Includes in-school and co-op units and students; numbers are rounded.

SOURCE: Division of Vocational Education, 1977-78 class size reports.

Information received from a mail survey of VEPD superintendents points out some problems in the way the state pays for vocational programs.

Superintendent Survey on State Funding

The funding questionnaire was mailed to 102 VEPD superintendents, 100 of whom responded. Superintendents of the participating home districts in the jointures were not included. In contract districts, the questionnaire was sent only to the superintendent of the district providing the services, not to the "sending" districts. The survey was primarily intended to measure the respondents' attitudes toward the state portion of vocational funding and solicit suggestions for improvement.

Financial Condition

Most VEPD superintendents feel that their districts are in good financial condition. The 32 percent who feel their districts are in poor financial condition includes, as might be expected from the differences in tax needs and levy results, many more comprehensive district superintendents than JVS superintendents.

Table 6.4
SUPERINTENDENTS' EVALUATION OF SCHOOL DISTRICT FINANCIAL CONDITION

	JVS	Comprehensive	Total
Good condition	66%	55%	60%
Poor condition	19	43	32
No response	15	2	8
TOTAL (N)	100% (47)	100% (53)	100% (100)

Only 28 percent of those who identified their district as being in poor financial condition blamed the state. Inadequate local funding was considered the major cause of financial problems.

Material and Supplies

The majority of superintendents identified the $4,000 "override" for materials, supplies, and equipment (Table 6.5) as the least adequately funded part of the state subsidy formula. One administrator commented, "The override for voc-ed has not increased in the last few years, but the cost of materials has increased significantly. The value of the $4,000 is being diminished each year by inflation."

Table 6.5
MOST POORLY FUNDED COMPONENT OF DISTRIBUTION FORMULA

Material, Supplies, & Equipment ("override")	61%
Teacher's Salary	30
Fringe Benefits	9
	100%

Equipment Replacement

While materials and supplies are the most pressing operating need, replacement equipment is said to be the most troublesome capital need (Table 6.6).

Table 6.6
MOST PRESSING CAPITAL NEED

Replacement Equipment	59%
New Buildings	19
New Equipment	16
Building Renovation	6
TOTAL	100%

One superintendent commented:

> The state of Ohio has an excellent vocational education system. . . . One of the outstanding characteristics of the job training offered is the contemporary equipment used for training. As the equipment is utilized, two factors need consideration. First, the equipment being used fourteen hours daily will wear out, and secondly, for quality job training, up-to-date equipment must be available. As equipment becomes obsolete, it loses its training value in preparing persons for jobs. As a result, attention must be given to assistance from the state of Ohio in the replacement of equipment, thus maintaining the quality of the state's investment in the vocational education delivery system.

As discussed in Chapter Five, very few employers or graduates perceived a problem with the equipment used for vocational training in the sample districts. Teachers did not identify worn or outdated equipment as contributing directly to placement problems. However, as discussed in Chapter Four, equipment changeover costs may indirectly affect placement results. Because equipment and physical plants are tied up in existing programs, it is difficult to start new programs even when placement results are poor or enrollments are low.

This observation seems to be supported by the superintendents' response to a question concerning obstacles to program diversification, in which the respondent selected two responses from a prepared list.

Table 6.7
OBSTACLES TO PROGRAM DIVERSIFICATION

	Times Mentioned
Lack of equipment	42
Inadequate physical plant	39
Lack of employment demand in the business community	32
Lack of instructors	22
Lack of student interest	20
Lack of approval by Ohio Department of Education	13

Ohio's vocational capital facilities (buildings, fixtures, and equipment) are worth about $1 billion in current replacement costs. Table 6.8, based on Department of Education data, estimates the replacement costs of movable equipment at $175 million. The 25 percent purchased prior to the start of state aid is probably in greatest need of replacement. The Ohio Advisory Council for Vocational Education has commissioned a study of equipment needs which should clarify the magnitude of the problem, so this report does not discuss the issue in detail.

Table 6.8
COST OF NEW AND REPLACEMENT EQUIPMENT*

Biennium	Total Equipment Authorized	Estimated 1978 Replacement Cost	Federal Replacement Allowances
Purchased before state aid		$43,000,000	
1963-1965	$ 2,499,000	$ 5,650,000	
1965-1967	$ 7,091,000	$14,630,000	--
1967-1969	$ 7,218,000	$12,930,000	$634,000
1969-1971	$30,398,000	$46,630,000	$2,754,000
1971-1973	$ 8,577,000	$10,650,000	$3,010,000
1973-1975	$32,062,000	$35,400,000	$2,956,000
1975-1977	$ 5,806,000	$ 5,780,000	$1,000,000
1977-1979	$ 412,000	$ 370,000	$1,000,000
TOTALS	$94,064,000	$175,107,000	$11,354,000

*All figures rounded to nearest thousand.

A plurality of superintendents indicated that they would prefer to pay for replacement equipment through the use of a separate state allocation matched by local funds. Significantly, none favored the status quo.

Table 6.9
PREFERRED METHOD OF EQUIPMENT REPLACEMENT

A separate state allocation for replacement equipment, matched by local funds	38%
An increase in the allotment for material, equipment and supplies under the unit system	29
A separate allotment for replacement equipment based on the age of current equipment	24
Application to the State Department of Education for replacement of specific equipment	8
Other	1
The present method	0
TOTAL	100%

State Unit Funding and Program Costs

Although a majority of JVSD superintendents indicated a preference for the present unit formula for state funding, superintendents of comprehensive districts preferred by a slight margin variable unit funding depending on program cost. The superintendents selected from a prepared list of options.

Table 6.10
STATE VOCATIONAL FUNDING METHOD PREFERRED BY SUPERINTENDENTS

	JVS	Comprehensive	Total
Present unit formula	65%	27%	44%
Variable unit funding depending on program cost	23	33	28
Basic state aid formula plus a flat amount per vocational pupil	10	31	22
Flat amount per vocational pupil	2	8	6
TOTAL (N)	100% (40)	100% (48)	100% (88)

Unit funding, as it currently exists or varying with program costs, was preferred by 72 percent of the total respondents. However, JVS superintendents preferred these options much more heavily (88 percent) than did comprehensive district respondents (60 percent). This may reflect, in part, the comprehensive district superintendents' greater dissatisfaction with the funding status quo and possibly the help they see coming from the equal yield formula. The JVS superintendents' very high satisfaction level implies that the unit formula is quite advantageous for their districts.

The second most preferred option proposes that instructional units receive different levels of state support, depending on program costs. All units are now at the same level although, as one superintendent wrote, "it costs a great deal more to train a welder than a student in a child care program" (see Table 6.2, p. 50). The current formula gives VEPD administrators a financial incentive to maintain a large proportion of low-cost units, although the staff found no evidence that decisions about program offerings were systematically affected by that incentive.

Taxing Capacity

The administrators are almost evenly divided on whether state aid for vocational education should compensate for differences in taxable wealth.

Table 6.11
SHOULD THE DISTRIBUTION SYSTEM COMPENSATE FOR LOCAL TAXABLE WEALTH?

	JVS	Comprehensive	All
Yes	32%	43%	38%
No	51	36	43
Don't know, no response	17	21	19
TOTALS (N)	100% (47)	100% (53)	100% (100)

Thirty-eight percent favored such a distribution method, but almost one-fifth gave no opinion. Comprehensive districts' superintendents favored this alternative more frequently than jointures' superintendents.

Should the state decide to compensate for wealth or tax effort in funding vocational programs, constructing a single formula appropriate for both comprehensive and joint vocational districts may be difficult because:

--the tax rates needed to fund their educational programs are entirely different

--JVSDs spend much more per pupil

--a higher portion of JVSD revenues are used for post-secondary and adult programs

--physical plant conditions for comprehensive districts and JVSDs are quite different.

Academic Instructor Salaries

Some JVS superintendents expressed concern about the lack of state support for academic instructors and for administrative and support personnel. While the JVS home schools receive 25 percent of basic aid for each full-time vocational student to cover academic and administrative costs, JVS districts receive no state funds for academic teachers or support personnel. Many administrative salaries are partially paid by federal funds, but academic salaries must come either from state overrides or from JVS local millage. Since almost all joint vocational schools offer required academic courses on-site for all students, home school payments need cover only administrative and transportation costs. JVS administrators would like the academic classes they offer to receive state reimbursement on a unit basis.

Extended Service

In conversation with Division staff and sample district personnel, extended service was mentioned as an important fiscal issue. Extended service is summer pay for teachers associated with farm co-op and other programs which extend into the summer. The percent of costs being reimbursed by the state for these services is now under 30 percent, much lower than the state reimbursement of over 40 percent for all costs.

Unit Size

To receive state funds, an instructional unit must meet enrollment requirements. A district must have at least 15 students for a junior class and 12 students in a senior class. If a unit falls below the required number, it receives no state funds. One administrator explained that:

> . . .a local district must decide in March or April whether or not a program is to be offered because it is necessary to plan for materials and equipment and to select an instructor. If there are 18-20 students who have elected a course at that time, generally it will be decided that the program should be offered and materials will be purchased and an instructor will be employed. This, in effect, locks the district into the decision. The state, however, does not make a final commitment until actual enrollment is tabulated for the first week in October. At that time, should there be only 14 students. . . the state will not provide any funds . . . and the JVS is left holding the bag. . .

The problem is worse for twelfth grade units. Most training programs are two-year courses of study and few students enter in the second year. Thus, if a unit has much attrition before the senior year, the district may not receive any state funds for the unit. Because the district is committed to the instructor and the students have invested a year in the program, the district may continue the class and be forced to pay the total cost.

Class sizes of 26 to 29 are also a problem. According to Department of Education regulations, the number is too large for one class and too small for two classes. Because of the likelihood of attrition probably at least 35 students would have to sign up before two classes could be offered.

The Division of Vocational Education has chosen to discourage low enrollments and promote efficiency and economies of scale by setting enrollment minimums. However, districts must apply for program approval in early spring each year for the following fall. If the program is approved, commitments are made to an instructor and the prospective students, equipment and supplies are purchased, and classroom space is set aside. The school cannot renege on these obligations if fewer than the minimum number of students for unit reimbursement actually attend in the fall. This state policy penalizes districts which have higher than average attrition rates. It may also encourage districts to screen students rather than admit them on a first-come, first-serve basis.

The unit formula is also inflexible with respect to number of students <u>within</u> the enrollment limits. Regardless of actual costs, a junior unit with 15 students or a senior one with 12 students gets the same reimbursement as a unit with the maximum 25 students. As shown in Table 6.10 (p.55) most superintendents do not favor per-pupil reimbursement for vocational units. However, those options are much more heavily favored by comprehensive district superintendents (39 percent) than by JVS superintendents (12 percent). The reasons for this difference are explained in the following section.

Interaction of State Equal Yield and Vocational Unit Subsidies

Though the concern of this study is vocational training, categorical funding for vocational programs operates simultaneously with the state equal yield formula in comprehensive districts. The interaction of the two forms of aid may be important in determining levels of student participation in job training.

Moving students into a vocational unit has two negative effects on a district's state support. First, each student enrolled in a vocational unit is excluded from the district's average daily membership (ADM), reducing the number of pupils for which a per-pupil payment is made under the equal yield computation. The greater the district's entitlement under the equal yield formula (i.e., the poorer the district in property wealth), the more money it stands to lose for each pupil who transfers into a vocational unit. This effect will be exacerbated as the equal yield formula approaches full funding.

Second, because the equal yield computation pays districts the difference between a specified amount per pupil and the revenue per pupil produced locally, removing pupils from the local revenue per pupil computation increases the local revenue per pupil and thus decreases the size of the state's per-pupil payment needed to attain the guaranteed yield amount.

Therefore, regardless of a district's wealth, it has no financial incentive to enroll more students in a unit than the minimum required for state reimbursement: 15 in a junior class, 12 in a senior class. Table 6.12 illustrates these effects.

Table 6.12
INTERACTION OF BASIC AND CATEGORICAL AID IN FY 1980

School has: 900 students under basic aid
100 FTEs in vocational education
7 vocational instruction units

Add one Voc Ed Unit:

	Current	15 Pupils	19 Pupils	25 Pupils
Basic Aid[1]	$388,800	$375,500	$372,000	$365,700
Voc-Ed Aid[2]	$122,500	$140,000	$140,000	$140,000
Total Aid	$511,300	$515,500	$512,000	$505,700
Difference from Current	-0-	+ 4,200	+ 700	- 5,600

[1]For a district with 26 mills, the state average tax effort yielding $30 per pupil per mill at full funding of the equal yield formula: $432 per pupil.

[2]Assuming an average unit reimbursement of $17,500.

Thus, a district can move students from a college preparatory or general curriculum into the more expensive vocational programs, increase its expenditures for those students, and actually receive less state aid. Obviously, the tradeoffs for a particular district will also vary with program costs, instructor salaries, start-up and replacement equipment needs, and district tax effort.

Trade-offs are different for JVSDs because they are not eligible for per-pupil funding under the equal yield formula. Thus, economies of scale may encourage jointures to "load" each unit with the maximum number of students.

However, JVSD home districts may find it advantageous to keep low-cost programs at the home school and receive the unit reimbursement themselves. For more costly programs, students can be sent to the JVS and the home district still receives 25 percent of the equal yield subsidy for them. This explains why JVSD administrators do not suggest taking the 25 percent for academic courses from the home districts. Although they would like to receive state reimbursement for academic classes, JVS administrators do not want to give the home schools any basis to discourage students from attending the JVS. (Likewise, JVS administrators would like to be able to offer students a full program of extracurricular activities at the JVS.) The same reasoning obtains for "sending" contract districts vis-a-vis the "receiving"district which provides the programs.

CONCLUSION

Insofar as graduate job placement is concerned, the state's vocational education program has been relatively successful. As with most successful programs, some areas could be improved. While overall job placement results in Ohio are quite good, results in certain programs are far below average, and the state gives districts little incentive to change them and provides relatively little policy emphasis and guidelines on placement.

Employers are generally satisfied with vocational graduates' skills and prefer vocational graduates, but would favor increased communication with school officials and improved academic and interviewing skills. Most graduates would take vocational training again, but many feel they were not given adequate information and guidance before choosing a particular program.

The state unit reimbursement formula works well on the whole, especially for JVSDs, but fails to account fully for inflation, to discriminate among program cost differences, to correct for unintended consequences of the interaction between the state basic aid and equal yield formulas in comprehensive districts, and to discourage competition for students between joint vocational schools and their participating home districts and between "sending" and "receiving" contract districts.

Several questions were raised which could not be answered because of time constraints and other limits on the study, but which could be the basis for future research. A closer look at career education and actual guidance or counseling efforts is needed to determine whether vocational education possibilities and limitations are presented adequately to students, and to determine their impact on student career choices and ultimately on their satisfaction with those choices. What are the effects of vocational screening on placement results and on the affected students? Are incentives such as extracurricular activities needed to attract students to attend a JVS? To what extent do secondary vocational, technical college and proprietary programs overlap and with what effect on job placement results? How do elements in the state school finance formulas interact to produce financial incentives to offer (or not offer) vocational training or certain programs and how can any unintended consequences be corrected?

These and other issues touched on in the research and writing of this report may deserve further exploration, such as the forthcoming study of equipment replacement by the University of Dayton. Such additional studies may yield further improvements in Ohio's already-successful secondary job training programs.